

Poisoning the well: neoliberalism and the contamination of municipal water in Walkerton, Ontario

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Received 28 October 2002; received in revised form 1 August 2003

Abstract

In May of 2000, thousands of residents of the town of Walkerton, Ontario became ill from drinking municipal water contaminated by *Escherichia coli* and *Campylobacter jejuni* bacteria. Seven people died, while many suffered debilitating injuries. A highly unusual and risk prone local hydrological regime, coupled with manure spreading on farms near municipal wells, and lax oversight by municipal water utility officials, were quickly blamed by Ontario government figures, including then premier Mike Harris. However, the scandal surrounding Walkerton's tragedy and a subsequent public inquiry into the incident also implicated neoliberal reforms of environmental governance introduced by Harris's government subsequent to its election in 1995. This paper examines the Walkerton incident as an important example of a "normal accident" of neoliberalism, one that can be expected from neoliberal environmental regulatory reforms arising from systematic irresponsibility in environmental governance. This irresponsibility is promulgated by an overarching hostility to any regulatory interference with free markets, as well as specific regulatory gaps that produce environmental risks. The paper also serves as a case study of the extent to which neoliberalism is constituted by environmental governance reform, and conversely, how environmental governance reform is reconfigured as part of the emergent neoliberal mode of social regulation.

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Keywords: Neoliberalism; Environmental governance; Environmental regulation and neoliberalism

"She died in the hospital away from her home, hooked up to machines and tubes in a coma. She suffered terribly for ten days. She never had a chance to understand her illness. She couldn't put her affairs in order or say goodbye. There was no time. She just got sicker and sicker... and we were always ten steps behind the illness. Her dreams of retirement with Dad and traveling were stolen, all because the water was unsafe and nobody told her."

- Janice King, daughter of Betty Trushinski, aged 56, victim of the Walkerton water poisoning, in testimony before the Walkerton Inquiry (O'Connor, 2002b, p. 46).

"Irresponsibility is the organizing principle of the neoliberal vision."

- Günter Grass, "The Progressive Restoration: A Franco-German Dialog", *New Left Review* 14, March/April 2002, p. 71.

1. Introduction: poison in the water

For residents of Walkerton, Ontario, the Victoria Day weekend of 2000 began as had many before it. Viewed as the start of summer, Victoria Day (one week prior to the American Memorial Day Holiday) offers Canadians an opportunity to break out the barbeque, open up cottages, air out tents, visit friends and family, and talk about playoff hockey. In Walkerton, a spate of thunderstorms in the week preceding the holiday did little to dampen enthusiasm for an annual rite. Indeed, as the weekend arrived, though warning signs had already appeared, there was little hint of an imminent calamity. But by Monday morning, Walkerton's first resident had died from drinking poisoned town water.

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The death of Lenore Al would be followed by six more. Despite a boil-water advisory issued by the region's Medical Officer of Health on Sunday May, 21st, in excess of 2300 area residents became infected; many survivors suffered seriously, and continue to experience long term effects both physical and psychological.¹

The proximate cause of the infections and deaths was soon apparent: contamination of treated municipal water by *Escherichia coli* and *Campylobacter jejuni* bacteria. A particularly deadly strain of *E. coli* known as O157:H7 and found in the stomachs of cattle was implicated in the most severe cases, and in all of the deaths.² Yet, where had the bacteria come from? How did they get into the town's water? And why were they found in treated water, despite chlorination systems, testing procedures, and claims by Ontario government authorities that provincial regulations safeguarding Ontario drinking water were adequate? In a nation routinely ranked at or near the top of the United Nation's Human Development Index, a scandal quickly erupted over how what had come to be taken so utterly for granted—the provision of safe municipal drinking water—could fail so catastrophically.

The provincial government quickly portrayed the incident as an isolated episode, blaming ostensibly freak “natural” events and circumstances, including severe rainstorms and karst hydrology, together with administrative bungling bordering on criminal negligence perpetrated by town water managers. In a high profile and extensive public inquiry established by the Ontario government after the tragedy (O'Connor, 2002b),³ Ontario Premier Mike Harris explicitly blamed the local water utility management and staff, as did the province's legal team. A year after the release of the second inquiry report, criminal charges were in fact brought against former staff of the Walkerton public utility.

Yet, as the public inquiry itself made plain, the poisoning of Walkerton's water cannot and must not be seen as an isolated incident, despite its admittedly unique circumstances. Rather, this tragedy is an example of broad regulatory failure and the systematic production of environmental risks by neoliberal governance reforms, an environmental and human health manifestation of what Jamie Peck (2001) has termed neoliberalism's “thin policies and hard outcomes”.

In this paper, I examine the Walkerton tragedy as a kind of “normal accident” (Perrow, 1999) produced in significant measure by the nature of neoliberalism.

The Walkerton incident implicates in particular a project of neoliberal reforms visited primarily in the wake of the provincial elections of 1995. This project, sweeping and unprecedented in Ontario, bore many of the familiar hallmarks of what has been referred to as “rollback neoliberalism” (Peck, 2001; Peck and Tickell, 2002), including: fiscal austerity, administrative de-regulation and re-regulation; and privatization. In addition, and underscoring a core theme of this special issue, neoliberalization in Ontario was predicated in significant measure on the re-configuration of provincial environmental governance, and in ways that contributed to the Walkerton incident. This new mode of regulation cut a broad swath through Ontario's environmental regulatory apparatus, undermining the capacity of regulatory agencies, creating specific regulatory gaps while at the same time placing an overall chill on the regulation of capital's access to and impacts on the Ontario environment. More specifically, neoliberalization in Ontario undermined agricultural and water quality regulation. Together, these dimensions of environmental neoliberalization in Ontario contributed to the Walkerton incident by creating the conditions for regulatory failure; this is what makes Walkerton 2000 a normal accident of neoliberalism.

Nevertheless, implicating the broad architecture of neoliberalism does not obviate the significance of particular political and ecological factors that contributed to the incident. These too are both analytically and circumstantially important. Indeed, the Walkerton tragedy occurred in an area with a highly particular hydrological regime, one that in combination with livestock agriculture, and lax environmental controls, produced a ‘perfect storm’ of risk for groundwater contamination. Moreover, if local utility management cannot be held accountable for the wider failures of the regulatory system under neoliberal reforms, neither can their gross, and scandalous misconduct be ignored. My argument in this paper is that wider, systemic issues and locally specific contributors to the tragedy comprise a false dichotomy of causation. Reinforcing another core theme of this special issue, *only* the juxtaposition of neoliberalism's hegemonic character with specific political ecological contradictions can reveal the crisis tendencies of environmental neoliberalism. In the case of Walkerton, it is precisely the combination of neoliberal reforms with a highly particular biophysical environment and the actions of environmental managers that turned a “normal” accident waiting to happen into a specific one with tragic consequences.

The paper is organized in the following manner. The first section provides some brief elaborations on the

¹ Some have permanent organ damage, particularly to their kidneys. Others cite persistent after effects from the trauma of the experience, including paranoia regarding every little illness, and an acute, lasting distrust of drinking water. One resident stated before the public inquiry into the tragedy “Oh my goodness, why am I so depressed and how come I can't stop crying? It's scary just not knowing what's going to happen . . . next” (O'Connor, 2002b, p. 44).

² This individual strain of *E. coli* has been known to be particularly virulent since it was first identified in an outbreak of *E. coli* contamination linked to beef consumption in Oregon in 1984.

³ The second report was released on May 23rd, 2002, and was accessed at <http://www.walkertoninquiry.com/report2/index.html>.

notion of a normal accident in the context of the production of environmental risks by neoliberal governance reforms. The following section addresses locally specific factors that contributed to the poisoning of Walkerton's water, including the conjunction of a distinct hydrological regime, local and regional livestock production, and the practices of municipal utility officials in (mis)managing the town's water supply. Subsequently, the paper turns to chronicling the establishment of a systematic "irresponsibility" (to borrow Grass's apt notion, quoted above) in environmental governance via neoliberal reforms visited by the administration of ex-Premier Harris under a platform dubbed the "Common Sense Revolution". This includes first a review of the broad project of neoliberalism as a new mode of social regulation antagonistic to state-centred environmental regulation; and secondly, those reforms that contributed to the tragedy most directly by undermining provincial oversight of agricultural waste and runoff, as well as groundwater and municipal water quality management.

2. Confronting the production of environmental risk under neoliberalism

As the introduction to this volume argues, neoliberalism has been significantly constituted by reform of social relations with biophysical nature, and in ways that are central to the neoliberal project itself (see McCarthy and Prudham, this volume). The converse is also true; neoliberalism has become an important source of change in environmental governance, and a source of new environmental risks. Since antagonism to state-centered regulation of any sort is central to neoliberal ideologies, discourses and practices (Brenner and Theodore, 2002), and since this includes regulation of capital's access to and transformations of nature, various specific neoliberalizations may be understood as the sources of new environmental risks, or in Neil Smith's terms (Smith, 1984), implicated in the "production" of new nature(s) that take shape as environmental hazards. The origins of the Walkerton tragedy in neoliberal governance reforms are what make it a "normal" accident of neoliberalism itself, comprising in Polanyian fashion a political and ecological contradiction socially generated or produced as a result of market (neo)liberalization.

The concept of a normal accident was developed by Perrow (1999) as a way of describing catastrophic failures in systems whose characteristics make such events inevitable. To be fair, Perrow did not have neoliberalism in mind, and his notion is intended to be applied to technologically and organizationally elaborate systems (e.g. nuclear power production) together with the engineering approaches used—in his view with a degree of futility—to control and manage the risks of system

failure. I adopt and adapt the term here to denote the ways in which neoliberalism generates endemic risks of environmental catastrophes by building *organized irresponsibility* into regulatory systems; while the actual circumstances of "accidents" are indeed important, these must not obscure the systematic production of probabilities that they will occur, nor the characteristics of neoliberal regulatory systems that shape the potential consequences when they do. Thus, the idea of a normal accident of neoliberalism, as used here, is very much akin to the ways in which environmental hazards have long been understood as products of nature, yet also socially produced in significant ways.⁴

There are in particular tempting parallels to be drawn with Ulrich Beck's widely influential thesis on environmental risk and a new Risk Society (Beck and Ritter, 1992; Beck, 1999). In the case of the Walkerton tragedy, Beck's thesis is intriguing because he locates the production of environmental risks of various kinds in a sophisticated account of contemporary political economic and technological change. Moreover, he argues that increasingly, environmental risks are becoming endemic and pandemic in late modern society, as are the politics and institutional strategies comprising sociological responses. Beck specifically suggests that exposure to new sources of environmental risk cuts across traditional class fractions to "produce" a new politics of risk, a perspective that at first glance would seem directly applicable to the contamination of municipal water systems (though one might quickly identify problems with the assumption that such risks are indeed indiscriminate across social strata). However, Beck's original thesis suffered from a diffuse account of the politics of risk production. Thus, as Benton, 1997 points out in an important critique, while Beck's thesis highlights the significance of new environmental risks and their politics, his theory tends to downplay relatively traditional themes in capitalist political economy underpinning the production of such risks. Beck's Risk Society thesis makes it difficult to locate anything as particular as neoliberalism as a significant political and ideological influence on risk production. Yet, as Benton demonstrates using the deregulation of animal feed in Thatcherite Britain and its role in the UK's mad cow disease outbreak, new environmental risks are often closely tied to struggles over the apparatus of the state as a source of capitalist market regulation; neoliberalism comprises arguably the most significant recent phase of such struggles, and one that has literally swept across the globe.

Though he does not directly invoke Karl Polanyi, Benton's recourse to longstanding themes in the political

⁴ See e.g. White and Haas, 1975; Watts, 1983; Beck and Ritter, 1992; Davis, 1998, 2001; Pelling, 2001.

economy of capitalism as a foundation for appraising contemporary environmental risk production calls to the fore Polanyi's (1944) theory of nature as a "fictitious commodity".⁵ As we indicate in the introduction, Polanyi's powerful ecological critique of liberal capitalism posits biophysical nature as both a structural and a political contradiction to liberal capitalism's ever more self-regulating market. Polanyi argues quite simply and elegantly that ecological functions sustaining social and economic life give the lie to the very idea of a market able to regulate itself, since these functions do not respond to price signals *per se*. This places social reproduction and the reproduction of the market (and capital) in tension over competing demands on biophysical nature. Given the marked parallels between liberalism and neoliberalism, Polanyi's framework is directly relevant to considering the production of environmental risks under neoliberalism.

This in mind, what is required is to locate the specific manifestations of political ecological contradictions as sketched by Polanyi and others within the context of neoliberalism as a diverse, contingent, and contested but nevertheless coherent phase in the capitalist regulation of nature—that is, to interrogate the ecological contradictions arising from specific neoliberalisms (Brenner and Theodore, 2002) or neoliberalizations (Peck and Tickell, 2002). Here, Regulation School perspectives on crisis tendencies mediated through the articulation of regimes of capital accumulation and modes of social regulation provide a promising point of departure for examining neoliberalism as a late capitalist mode of social regulation (Jessop et al., 1990; Peck and Tickell, 1992, 1995; Tickell and Peck, 1995). However, and as we also note in Section 1, very little has been offered regarding the reconfiguration of environmental governance, and the manifestations and mediations of ecological crisis tendencies under the neoliberal project. Given the centrality of environmental change as a political if not structural contradiction in globalization-as-late-capitalism (Giddens, 1994), it would seem vital for Regulation theorists to elaborate and interrogate the particular *ecological* dimensions of capitalist crises. Yet, while some significant work in this arena has been undertaken (O'Connor, 1988, 1998; Altvater, 1993; Bridge, 2000; Bridge and McManus, 2000), only very recently has any research explored the discursive and institutional shifts in environmental policies and regulatory frameworks that reflect terms of the neoliberal consensus, precursors to critical analysis of neoliberalism as a new mode of social *and ecological* regulation.

⁵ Fictitious in that the divorce of markets from social regulation driven by the politics of liberalization schemes create the "illusion" that nature is a commodity, entirely produced and regulated by market forces.

This paper (along with this collection) is meant to address in some manner these lacunae. I seek to locate the Walkerton tragedy in the context of broader neoliberal governance reforms, implicating this project while at the same time exploring it on its own terms as a socio-ecological undertaking. The Walkerton tragedy called into question the extent to which environmental governance has been re-jigged in Ontario since the election of the Mike Harris government in 1995, thereby shining a light on the significance of environmental re-regulation under this particular neoliberalization. This reinforces a point we make in the introduction, namely that while each such project is unique, it is evident that environmental re-regulation is woven into the very fabric of neoliberalism. This being the case, the Walkerton incident also highlights the potential for political ecological contradictions to arise from neoliberalism's organized irresponsibility in the social regulation of the environment, in this case with tragic consequences.

2.1. Walkerton

Walkerton is a pastoral town of approximately 5000 people located in southern Bruce County, in the heart of central-southern Ontario, approximately 150 km northwest of Toronto (see Fig. 1). Set in the rolling countryside of the upper Saugeen River watershed, it acts as the administrative seat for Bruce County, and has predominantly served as a kind of commercial and service hub for the surrounding, predominantly rural and agricultural area. Three factors local to Walkerton feature centrally in the May 2000 tragedy: the region's karst hydrology; livestock agriculture as a dominant local land use; and the actions of water utility managers at the Walkerton Public Utilities Commission (PUC).

2.1.1. Karst

In terms of local context, the particular karst hydrogeology of the Walkerton area is extremely significant to understanding why the tragedy occurred where it did. "Karst is terrain with distinctive hydrology and landforms arising from a combination of high rock solubility and well developed secondary porosity" (Ford and Williams, 1989, p. 1). Karst formations, most of which exist in carbonate rock, account for about 7–12% of the earth's surface, yet provide water for as much as one quarter of the world's population (Drew, Hötzl and International Association of Hydrogeologists, 1999). Distinct features of karst formations include networks of channels and pockets in the rock, providing avenues for underground water transport and storage. Karst is formed in areas where soluble bedrock—primarily limestones—are at or near the surface, and become subject to weathering by water drainage. Over time,

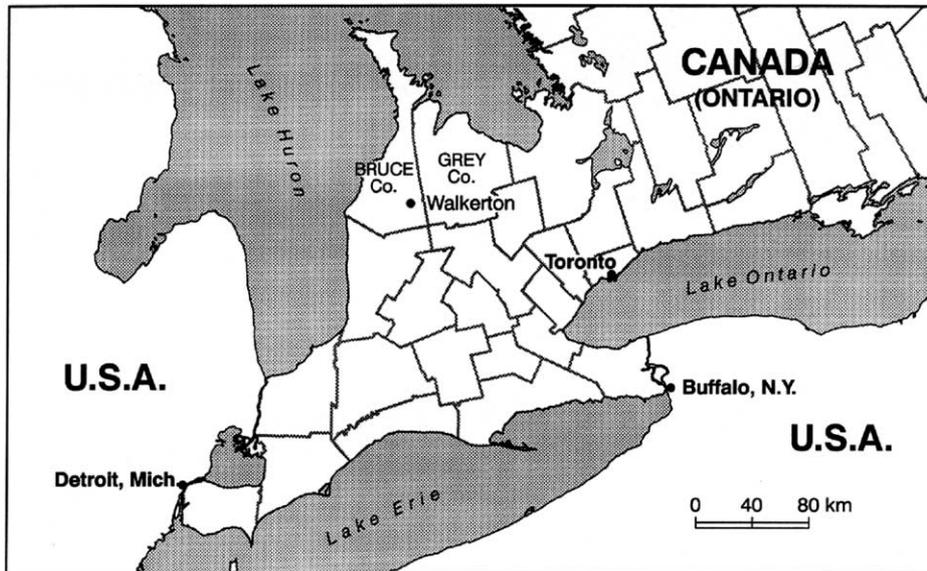


Fig. 1. Walkerton and its environs.

acidic drainage⁶ erodes the soft carbonate rock and opens networks of channels and chambers extending underground. In most karst formations, there are telltale surficial features, including sink-holes, disappearing streams, and caves. Indeed, karst formations are sites for some of the best known caves and caving activities, including Kentucky's famous Mammoth Caves.

Most of southern Ontario's bedrock is carbonate—including limestone and dolostone—deposited as sediments during the Silurian period approximately 400,000,000 years ago (Colville and Johnson, 1982; Cowell and Ford, 1983). Where karst formations exist in this bedrock, they have largely been rendered hydrologically inactive by depositions of glacial till as much as 100 m thick. Yet, in the Walkerton area, the carbonate bedrock is much closer to the surface. Despite relatively few visible surficial indications, limestone and dolostone formations underlie an extremely thin surface layer of gravel and soil, typically on the order of 5–15 m deep (Worthington et al., 2001). Because of its proximity to the surface, this layer of bedrock in the Walkerton area has been formed into hydrologically active karst (Cowell and Ford, 1980, 1983; Drew, Hötzel and International Association of Hydrogeologists, 1999).

Under such conditions, underground channels and pockets in the rock are readily susceptible to contamination. While all aquifers are re-charged by surface waters, contamination of most aquifers by groundwater is prevented by gradual rates of infiltration through

overlying soils and rock, removing contaminants. However, in karst, because of thin overburden and highly fractured bedrock, contaminated surface water may reach underground aquifers before contaminants are removed. This is a phenomenon most obviously apparent where sinkholes and disappearing streams funnel surface water directly underground, but it can also occur in places where aquifers are covered by very thin soil layers. Compounding this risk of aquifer contamination from direct infiltration, once groundwater becomes contaminated, polluted water may be rapidly propagated through karst via underground streams. Thus, in a report prepared for the Concerned Walkerton Citizens in the aftermath of the Walkerton tragedy, Worthington et al. (2001) note that the average velocity at which water flows through conduits in carbonate bedrock, based on tracer tests, is 1.7 km per day, although much higher propagation rates are possible. They also cite data collected from various points in southern Ontario showing propagation velocities ranging from 4.6 to 21 km/day.

Of particular concern in this context is the potential for runoff contaminated with bacteria (including *E. coli* and *Campylobacter jejuni*) to seep into groundwater and be propagated into wells and springs used for drinking water. This appears to be what happened in the Walkerton case. In particular, one of the town's wells known simply as Well 5 has been implicated as the source of most if not all of the contamination during May of 2000 (O'Connor, 2002b). Table 1 indicates the results of testing done on Well 5 in the aftermath of the tragedy to determine the link between well contamination and surface water runoff (see Worthington et al., 2001). Following significant rain events, during which runoff is

⁶ One source of the acid is decaying organic matter in surface layers. As water passes through overburden materials, this decaying organic matter provides a source of dissolved carbon dioxide, rendering the water acidic.

Table 1
Contamination Tests on Well 5, Walkerton Ontario

Date of maximum rain	Maximum daily rain (mm)	Total rain in event (mm)	Total coliform (maximum) cfu/100 ml	<i>E. coli</i> (maximum) cfu/100 ml	Lag from rain peak to coliform peak (days)
6/25/2000	18	24.75	80	6	2
7/14/2000	30.75	50.5	52	16	1
7/31/2000	38.5	45	12	0	1
8/22/2000	8.25	10.5	13	0	1
8/26/2000	14	14.5	74	32	1
9/10/2000	26.26	26.26	2	0	1
9/14/2000	33.25	59.25	48	30	2
9/20/2000	24.75	31.5	10	2	4
10/6/2000	8.25	12	0	0	N/A
11/10/2000	25.75	35.5	2	0	0
11/16/2000	10	21.75	8	0	2

Source: Worthington et al. (2001).

Rain event defined as one or more consecutive days with rain.

elevated, tests were conducted to determine the association between peak fecal coliform contamination in the well, and peak runoff. The results show a clear association, with lag times on the order of 1–4 days. This strongly suggests that the source of contamination in Well 5 is contaminated surface water draining into the aquifer and contaminating the well. This connection is strengthened by evidence of frequent contamination of Walkerton's water supply—particularly since Well 5 was drilled in 1977—on the order of 5–7 times per year preceding May of 2000, and usually in the aftermath of significant rainfall.⁷

2.1.2. Agricultural waste

This being the case, it does not answer where the bacteria that contaminated Walkerton's water originated. Yet, the particular types of bacteria involved immediately suggested that livestock production and the spreading of manure on fields close to municipal wells may have played a role. Both *Campylobacter* and *E. coli* are common in the stomachs of cattle, while the particularly lethal strain of *E. coli* that poisoned Walkerton's citizens is endemic *only* in the guts of cattle.

This points to the potential significance of livestock farming in the Walkerton area, and more generally, to the association between livestock farming—particularly large, industrial scale farming—and groundwater pol-

lution. Together, Bruce County and neighboring Grey County rank 2 and 1 respectively in Ontario beef cattle production (see Table 2). Both counties are also among the leaders in provincial hog production (Ontario Ministry of Agriculture, Food, and Rural Affairs, 2001). Moreover, these counties are leading producers in a province that has experienced significant increases in its livestock production in recent decades. The number of total beef cows on Ontario farms has increased from 134,000 head in 1950 to over 400,000 head in 2001 (Statistics Canada, 2001). By 1999, Ontario was home to a total of over 2 million head of cattle in all, complemented by over 3.2 million hogs (Ontario Ministry of Agriculture, Food, and Rural Affairs, 2001).

These increases in the total number of animals, while significant, do not tell the whole story; the intensity of farming has also risen markedly. Farms are getting larger and more industrial, with one quarter of Ontario farms accounting for three quarters of provincial farm revenues (Miller, 2000a). Intensive farms with more than 3000 hogs or 1200 head of cattle (many have more than 10,000 hogs and 3000 head of cattle) have become more and more common in the province, paralleling wider trends in agriculture (see e.g. Goodman et al., 1987; Goodman and Redclift, 1991; Beaulieu, 2001; Boyd, 2001; MacLachlan, 2001). At the same time, increases in herd size have been facilitated by industrial feeds and pharmaceuticals, allowing farm operations to scale up without proportional increases in land area (Beaulieu, 2001; MacLachlan, 2001). This particular pattern of intensification results in considerable economic productivity gains, yet one of its implications is that less area is available on which to spread animal waste. This is no small problem; Ontario's hogs alone produce as much raw sewage as all of the province's 10 million people (Miller, 2000b). With less land per head to absorb the disposal of manure by traditional spreading techniques, and with more and more substitution of

⁷ In fact, in 1978 when Well 5 was brought on line, tests immediately revealed fecal coliform contamination, for which the Ministry of the Environment prescribed chlorination (instead of closure of the Well). A nearby spring dried up, indicating that the well was drawing surface water into the aquifer. In 1998, a MOE inspector from Owen Sound found that Walkerton's water had been regularly contaminated with *E. coli* since 1995, and that public health officials had not been notified. In addition, four Walkerton children became ill and tested positive for *E. coli* O157:H7 in July of 1998. The source of the contamination was never revealed. "The Walkerton Story", Toronto Star, Saturday October 14th, 2000.

Table 2
Cattle on Farms, July 2000

Counties and districts	Dairy cows	Rank	Beef cows	Rank	Steers	Rank	Calves	Rank	Total cattle	Rank
Bruce	14,500	8	33,000	2	36,000	1	58,000	1	185,500	1
Dufferin	3,000		9,500		1,400		11,000		31,230	
Grey	9,200	12	36,000	1	27,500	4	42,000	2	141,800	2
Halton	600		1,100		3,600		1,000		6,910	
Huron	18,000		19,700		28,000		40,500		130,300	
Peel	5,500		3,800		400		5,400		19,200	
Perth	30,000		7,600		9,900		25,000		91,800	
Simcoe	8,000		22,200		13,500		23,500		78,450	
Waterloo	14,000		4,800		27,000		16,000		70,540	
Wellington	24,300		11,400		30,500		34,000		126,150	
Western Ontario	127,100		149,100		177,800		256,400		881,880	
Ontario	373,000		399,000		270,000		655,000		2,098,000	

Source: Ontario Ministry of Agriculture, Food, and Rural Affairs (2001).

synthetic organic fertilizers for manure, farm waste from intensive livestock operations has literally no place to go. Livestock manure presents a number of environmental and human health hazards, but none more serious than its potential to contaminate surface and groundwater, particularly in areas of karst where infiltration poses a direct threat to drinking water.⁸

As part of the Walkerton investigation, DNA tests matched bacteria recovered from Walkerton's water with cattle from a single farm next to Well 5, a farm owned and operated by local resident Dr. David Biesenthal. It bears noting that Dr. Biesenthal's operation was not a particularly large one; the herd on his 54 ha farm was only about 95 head (O'Connor, 2002b), hardly an industrial operation. Moreover, although the farmer was subject to considerable local criticism and social ostracism, inquiry chief Justice Dennis O'Connor specifically exonerated Dr. Biesenthal, noting that the farmer's waste management complied with what were then considered best practices under provincial guidelines (O'Connor, 2002b). Yet, if such contamination could come from a relatively small livestock farm, this only emphasizes the potential risks from larger and/or more intensive farms; and if Dr. Biesenthal followed existing guidelines, this begs important questions about the regulatory context for waste management and disposal.

2.1.3. Stan and Frank Koebel

If the combination of karst hydrology and livestock farming were two local contributors to the poisoning of Walkerton's water, then the conduct of local water system management was a third. Like 80% of the municipal water systems in Ontario, Walkerton's drinking water system and supply is managed by a public utility chartered and funded in part by the province (Watson and Associates, 2001). Walkerton's utility, similar to other municipalities, is run by a combination of elected representatives on the Walkerton PUC and staff hired by the board to run day-to-day operations. In the aftermath of the Walkerton tragedy, considerable scrutiny was directed at these people, not least by Premier Harris, who sought throughout the public inquiry and after to pin the blame on two brothers, Stan and Frank Koebel; while Stan was the general manager of the Walkerton PUC, Frank was its foreman.

There is certainly ample evidence to suggest negligence and possible criminal misconduct by the Koebel brothers, and charges have since been brought by the province against them. On Saturday, May 13th, 2000, in the aftermath of severe rainstorms that likely introduced most of the contamination into Well 5 (at the time the primary source of the town's water), Frank Koebel was responsible for conducting routine tests on pumping rates and chlorine residuals. The importance of this chlorine residuals test is to indicate the extent to which chlorine remains in the water following treatment. High chlorine residuals indicate low levels of contamination; low chlorine residuals indicate the presence of bacteria in the untreated water, while the absence of chlorine indicates that bacteria may remain in treated water, since all the chlorine has been used up. However, as had been the practice of PUC employees for 20 years, Frank did not measure chlorine residuals that day nor in the days that followed, instead entering false information in log books kept by the utility. Then, on Wednesday, May 17th, A&L

⁸ The link between these operations and threats to drinking water were recognized locally long before May of 2000. On several occasions, local citizens and the town council issued warnings about the environmental effects of intensive livestock production. In September of 1998, Walkerton joined with a number of Ontario municipalities in calling on the provincial government to tighten restrictions on livestock farms. The following year, a local citizens group called Citizens Actively Representing Environmental Security (CARES) petitioned the town to declare a moratorium on intensive livestock farms in the area.

Laboratories—the private lab contracted by the Walkerton PUC to conduct water tests—telephoned and faxed information to Stan Koebel indicating extensive contamination of the town's water supply, including treated water. While the lab did not report the findings to the province, as it arguably should have, Stan Koebel, despite his position as the PUC's general manager, did nothing.⁹ Only two days later, in response to inquiries from the regional Ministry of Health Office did Koebel respond by flooding the system with chlorine until residuals were restored; still, he remained silent. Evidence of the lab tests was not provided to the Ministry of the Environment (MOE) until directly demanded by Ministry staff on Monday, May 22nd, after the boil water advisory had been issued and the scandal had begun to erupt.¹⁰

Compounding actions in the Spring of 2000 was a longstanding pattern of abuse, and evidence that the Koebels lacked qualifications to occupy the positions they held. Not only did PUC staff under Stan Koebel's direction conduct chlorine residual tests improperly, they also routinely mislabelled samples, neglected to chlorinate drinking water altogether, submitted false reports to the MOE, and apparently made a regular practice of drinking alcohol at work. In addition, although Stan Koebel had certification as a water system operator, at no time did he complete any formal training as such. Instead, Koebel had been nominated for certification under a provincial process allowing existing operators to be “grandfathered” into compliance in the late 1980s, and had thereafter received pro forma renewals of his certification. Incredibly, *Koebel testified to the public inquiry that he had never read the province's guidelines on unsafe drinking water, and did not know what E. coli were.* Although provincial guidelines in operation at the time of the tragedy required Koebel to undertake annual training, he complied by recording activities irrelevant to the technical aspects of maintaining clean drinking water, including for example, marketing and cardio-pulmonary resuscitation courses (O'Connor, 2002b).

3. Neoliberalism in Ontario

Given the scandalous conduct of Walkerton PUC staff (particularly the Koebels), the temptation to blame them for the tragedy is obvious. Yet, as Justice O'Connor wrote in his inquiry report:

“It is simply wrong to say, as the government argued at the Inquiry, that Stan Koebel or the Walkerton PUC were solely responsible for the outbreak or that they were the only ones who could have prevented it” (O'Connor, 2002b, p. 24).

While the conduct of PUC staff contributed to the tragedy, and certainly made the impacts of contamination worse, the environment of neoliberal governance reform makes the Walkerton incident a normal accident. Specifically, the poisoning of the town arose from broad, systematic irresponsibility in environmental governance, and from specific gaps in regulatory coverage including agricultural waste and groundwater management provisions. In this section I review the broad architecture of environmental neoliberalism in Ontario, in order to convey the extent to which neoliberalization in the province was indeed predicated on environmental re-regulation, and to convey important issues of context for the Walkerton incident. I also discuss specific gaps directly relevant to the confluence of industrial livestock farming and groundwater management.

In significant measure, the adoption of neoliberal policies in Ontario actually pre-dates election of a neo-conservative provincial administration in 1995, perhaps one more indication of the hegemonic character of neoliberal discourses and practices in late capitalist social regulation (Laclau and Mouffe, 1985; Jessop, 1994; Harvey, 2000; Peck, 2001). Specifically, in the early 1990s the social democratic government of Ontario's New Democratic Party (NDP) led by Premier Bob Rae was confronted with a witches brew of deteriorating economic conditions, the political disintegration of Rae's Social Contract¹¹ initiative, and extreme pressure from domestic and international finance capital to adopt fiscal reforms. In response, Rae's NDP embraced austerity. Crucially, environmental spending suffered some of the deepest cuts; having peaked under Rae at \$824 million (all figures in 1998 dollars) in 1991–1992, funding for environmental programs in the province dropped to \$352 million in 1994–1995 (Krajnc, 2000) (see Fig. 2).

Seeking specific relief from the costs of water testing under the auspices of the MOE, the NDP also restructured provincial–municipal relations governing drinking water management via two pillars of the neoliberal consensus: regulatory and administrative devolution (downscaling); and privatization (Harvey, 1989; Tickell and Peck, 1995; Brenner, 1999; Peck, 2001). In 1993, the province for the first time introduced charges to local

⁹ In fact, when asked on May 19th about the water in light of an outbreak of diarrhea among Walkerton children, Mr. Koebel described the water as “okay” (O'Connor, 2002b).

¹⁰ This sequence is largely based on information in O'Connor (2002b).

¹¹ Under Rae, the provincial NDP first responded to worsening economic conditions by attempting to negotiate wage and employment concessions from public sector unions in the province. The effort collapsed under deteriorating conditions between the NDP and organized labor, the party's traditional support base.

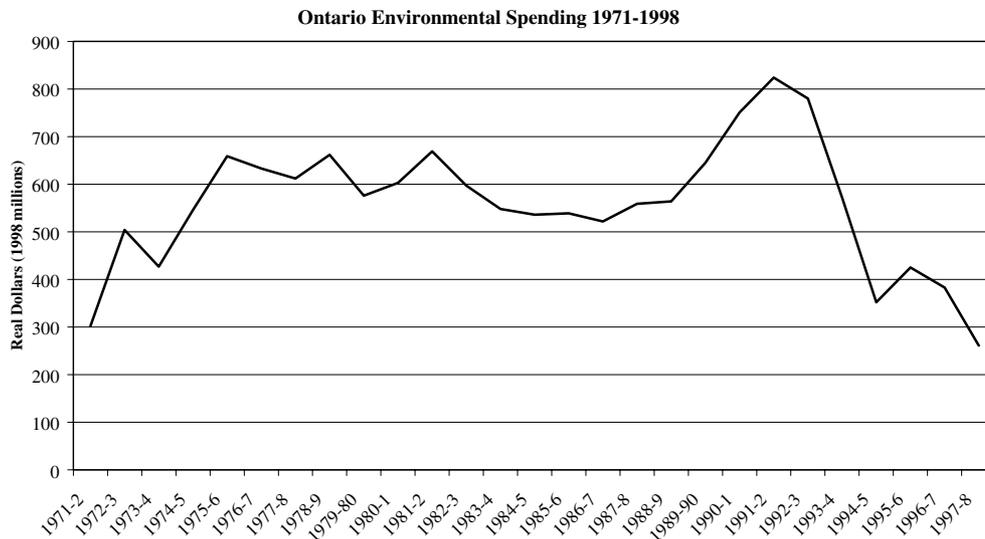


Fig. 2. Ontario environmental spending 1971–1998.

municipalities for the costs of water tests undertaken by the provincial MOE. As an alternative to paying these fees, however, the Rae administration also opened the door for and even encouraged contract testing by private labs. Divesting itself from water quality control, the province introduced no certification program for these private labs, nor any procedures for provincial notification by either the labs or municipalities in the event of water contamination. All the while, the province remained without a groundwater protection or management plan, nor even binding water quality standards.

3.1. *The environment of common sense*

If policies enacted by a party of democratic socialist heritage provided the thin edge of the neoliberal wedge, it was nevertheless the emergence of a new political coalition united under the provincial Progressive Conservative Party that delivered much more far-reaching neoliberal reforms (see Keil, 2002), and specifically environmental governance reform. NDP attempts to retain power in the election campaign of the spring of 1995 turned into a rout. Rejecting Rae's re-election bid, Ontario voters turned to the Big Blue Machine, a provincial "Tory" party traditionally known for Whig conservatism but re-invented under the leadership of former North Bay golf pro Mike Harris as a viciously revanchist neoliberal juggernaut. On June 8th, Harris was elected premier, drawing on a coalition of suburban small business support, a fanatically neoliberal youth movement, and the traditional but now muted "old money" core of the provincial Tories.

The discursive and institutional tropes of the new government followed a rather stunningly familiar formula reminiscent of earlier neoliberal projects under

Margaret Thatcher and Ronald Reagan (Jessop et al., 1990; Peck and Tickell, 1992, 1995; Tickell and Peck, 1995; Peck, 2001). Dubbed the "Common Sense Revolution", it was textbook rollback, featuring: steep spending cuts; tax reduction for the wealthiest; welfare and workfare reform; sweeping state retrenchment; and liberalization of provincial labour laws and markets (Keil, 2002). Public servants and unionized workers became the new evils, opponents of freedom, of progress, of prosperity, and worse, of common sense. And under Harris, "common sense" meant markets, markets, and more markets, the obvious, self-evident or natural solution to every policy problem, and pursued via three familiar tropes of rollback neoliberalism: fiscal austerity; deregulation and re-regulation; and privatization.

Critically, these strategies were visited in significant measure by deep restructuring of environmental governance in Ontario. In some measure, this is to be expected given the substantial but often overlooked ways in which neoliberalism is inherently an environmental project, a key theme of this issue of *Geoforum*. Even so, the Common Sense Revolution was a remarkably nature-centered project. In part, this is due to the specific political economic context. Under the Canadian federal system, provinces hold broad jurisdiction over regulation of the environment (Harrison, 1996, 2000; Hessing and Howlett, 1997). The Ontario MOE thus has primary jurisdiction over regulating environmental quality in the province, including for example playing a key role in setting and enforcing air and water quality standards, and in regulating the handling, transport and storage of hazardous wastes. Likewise, the Ministry of Natural Resources (MNR) has primary jurisdiction over the province's Crown lands, which in turn comprise 85 percent of Ontario's land base. The significance of this

authority is only magnified by the prominence of primary activities in Ontario, including the mining and forest industries.¹²

Among the first items on the Common Sense agenda was fiscal austerity aimed at environmental regulatory and resource management agencies. Building on and deepening the budget cuts introduced by the Rae government during the early 1990s, the first Common Sense budget cut environmental spending by an additional one third (see Fig. 2). Significantly, while earlier cuts had left core programs intact, those under Harris sliced much deeper, including the elimination of fully one third of the MOE's 2000 total staff positions. Deep staff cuts were also announced at the MNR, including over 2100 jobs (Krajnc, 2000). Significantly, this round of cuts was essentially ideological. In the words of Justice O'Connor following the Walkerton inquiry:

“The reductions were initiated by the central agencies of the government rather than from within the MOE, and they were not based on an assessment of what was required to carry out the MOE's statutory responsibilities.” (emphasis added) (O'Connor, 2002b, p. 34)

Taken to such an extreme, austerity measures serve as a form of *de facto* de-regulation, crippling certain administrative and regulatory functions by depleting both funds and staff. Core programs, rules, and regulations do not officially change, but are instead simply reduced to a purely rhetorical status, dematerialized by the slashing of administrative budgets and staffing levels. Yet, under the CSR, this fiscal form of de-regulation often proceeded hand-in-glove with direct administrative re-regulation, that is, targeted weakening or elimination of regulatory oversight. As austerity made achieving certain regulatory functions impossible, administrative re-regulation altered or eliminated the programs in order to consolidate cuts and eliminate responsibilities as so many “loose ends”. Thus, for example, during the spring of 1996 when an Ontario fruit and vegetable inspection program aimed at controlling pesticide residues and conducted by the Ministry of Agriculture, Food, and Rural Affairs (OMAFRA) became impossible to execute due to funding and staff cuts, the program was simply terminated altogether.

In addition, however, direct, targeted environmental re-regulation took on a character all its own under the Common Sense Revolution, not merely as a by-product

of fiscal austerity. Thus, sweeping, Omnibus style legislation made broad, and seemingly unrelated changes to a host of laws and administrative procedures. The first of these was Bill 26 (known simply as the *Omnibus Bill*), which in 1996 amended 44 different statutes all at the same time. The overall flavour of the Bill emphasized industry self-regulation, and the replacement of mandatory with voluntary standards and participation. Specific provisions of the Bill included elimination of required MOE approval for mine closures, and reduced mining company liability for clean-up and site remediation following closures. A second major Omnibus style initiative was dubbed rather tellingly the Red Tape Reduction Bill of 1998. Even broader than the Omnibus Bill, the Red Tape Reduction Bill amended 98 different statutes at once, many of them with direct environmental and natural resource implications, including removal or delegation of numerous environmental permitting processes. Arguably its most significant implication vis-à-vis the creation of conditions for normal accidents such as the Walkerton tragedy was borrowed directly from the Reagan neoliberal playbook;¹³ provincial regulatory agencies were required to conduct cost-benefit analyses prior to setting any new administrative rule or standard. The measure obviously created obstacles to administrative rule setting, and acted to dissuade new initiatives. But when combined with dramatic staff reductions and consistent rhetorical attacks on public sector employees and their unions, the result was a chill on environmental oversight. Many government employees reported steep drops in morale, undermining their sense of purpose in ways that made it less likely for them to show any initiative; moreover, staff with the MOE reported being specifically instructed by senior bureaucrats and legislative staff *not to prosecute violators of a range of environmental standards and rules* (Krajnc, 2000).¹⁴

Although there is a potential for progressive devolution of regulatory administration if it enhances direct citizen participation (Dryzek, 2000), the Harris administration combined elimination of provincial regulatory responsibilities with dismantling of most of Ontario's environmental advisory boards and commissions. This includes termination of the Advisory Committee on Environmental Standards, the Environmental Assessment Advisory Committee, and the Ontario Roundtable on the Environment and the Economy (Krajnc, 2000). The demise of these advisory boards and commissions—in combination with elimination of provincial funding for citizen groups to organize and contribute to a range

¹² For example, Ontario is an extremely significant producer of minerals on a global scale. Ontario accounts for slightly less than 30% of the total value of Canada's minerals production, and Canada in turn is among the most significant global producers and exporters of minerals (Mining Association of Canada, 2003).

¹³ On the environmental dimensions of neoliberalism under Reagan, see Dowie (1995) and Vig and Kraft (1984).

¹⁴ Canadian Environmental Law Association 1999. “Guide to Environmental Deregulation in Ontario”. <http://www.cela.ca/appendix.htm>. Accessed November 9th, 2000.

of provincial regulatory and administrative processes¹⁵—meant closure of critical avenues for independent scientific and public input, effectively consolidating the power of elite policy-makers within Harris's inner circle, and freeing up capital from independent oversight and accountability. These and other similar initiatives prompted the Ontario Ombudsman in her 1997 annual report to raise concerns about the provincial government's delegation of regulatory functions to industry, which she argued were creating potential liabilities, a lack of transparency, and serious conflicts of interest in the regulatory system (Jamieson, 1997).

The third avenue of neoliberal environmental governance reform under the Common Sense Revolution was outright privatization. Privatization can not be considered as wholly distinct from re-regulation, nor indeed from fiscal austerity; instead, fiscal downsizing and the reduction and removal of regulatory controls often act in *de facto* fashion to consolidate property rights. This is apparent, for example, in considering changes removing regulatory constraints on minerals and aggregate mining under the Common Sense Revolution, and reductions in the enforcement of environmental standards and regulations.¹⁶ Reflecting this overall predilection for the rights of capital, Anita Krajnc notes in delightful understatement in reference to the environment of Ontario's Common Sense Revolution (2000, p. 123), "There tends to exist an underlying aversion to the concept of public goods and the implicit role for government in protecting these goods on behalf of society".

Yet, in addition to *de facto* privatization, the CSR featured no shortage of more direct approaches to capitalizing nature (O'Connor, 1988) via the enhancement of private claims over lands and natural resources, and private provisioning of environmental services. These efforts include the so-called "Lands for Life"

initiative, under which the province entered negotiations with forest capital to create long-term tenures over public forest lands in place of shorter term harvest rights. Justified in terms of the Tragedy of the Commons discourse—a central discursive underpinning of environmental neoliberalism (Dryzek, 1997)—the program represented a marked departure from existing tenure rights, made all the more significant given that provincial forest lands cover fully half of Ontario.¹⁷ Other fronts in the thrust toward privatization included the dismantling and sale of Ontario Hydro, previously one of the largest energy utilities in North America, as well as deepening earlier NDP gestures toward privatization of water and other utilities.

With respect to the latter, the Omnibus Bill of 1996 repealed a Public Utilities Act provision requiring a public referendum prior to the sale of any utility. This was followed by Bill 107 in 1997 which fully divested the province of responsibility for sewage and water, and laid out guidelines for the outright sale of municipal utilities.¹⁸ While this was typically justified based on the claim that public service provision is inefficient, not least because of its supposed distortion of price and cost signals, the government's rhetoric played on false dichotomies. This is, as noted by Rees (1998), a common strategy of privatization schemes by zealots who ignore that actually existing water utility structures rarely conform to ideal types of public and market provisioning; and Ontario is no exception. Thus, for example, contrary to CSR discourse, prior to utility reforms introduced under Harris, *there was no provincial restriction on Ontario public utilities from employing marginal pricing schemes* (Watson and Associates, 2001).

4. Regulating agriculture and municipal water

All of these aspects of neoliberal reform provide important context for the Walkerton tragedy in significantly re-configuring the institutions and politics of environmental regulation in the province. Yet no connections are as direct as those made apparent by examining tendencies in the regulation of agricultural waste disposal and municipal water quality in the years prior to the May 2000 tragedy. In each case, despite clear indications of the need for improved protections against environmental pollution and risks to human health, the provincial government not only avoided

¹⁵ Accomplished by allowing the Intervener Funding Act to expire.

¹⁶ For example, in 1997, jurisdiction over the Niagara Escarpment Commission was abruptly transferred from the MOE to the MNR. The NEC is a special body established to administer development along the Niagara Escarpment, a unique landform over which Niagara Falls plunges, and recognized by the UN Biosphere Reserve Program. The move was a rather transparent attempt to free up valuable resources—including agricultural land, limestone, and aggregates—of the Escarpment, given the developmental mandate of the MNR (and a more industry friendly culture in the Ministry's staff on the whole) as opposed to the more conservation and preservation oriented MOE. However, these intentions were further revealed and to some extent actualized when seven new commissioners were appointed to the NEC in 1997, all of whom had at one time or another called for *abolition* of the Niagara Escarpment Plan and the NEC altogether. Further bolstering the aggregates industry, the Harris administration included in Bill 52 an amendment to the Aggregate Resources Act introducing voluntary standards and monitoring in aggregates extraction. See <http://www.cela.ca/appendix.htm>, op cit.

¹⁷ <http://www.cela.ca/appendix.htm>, op cit.

¹⁸ The privatization of municipal utilities is now on hold, following the Walkerton water scandal which directed much more public scrutiny in the direction of the CSR agenda vis-à-vis municipal water systems.

dealing with the issue, but exacerbated the risks by privileging unrestricted, market coordinated activities.

In the realm of regulating agricultural waste disposal, provincial failures to address the suite of problems associated with these wastes have deep roots, preceding in significant measure the Common Sense Revolution. Moreover, despite longstanding concerns about the problems posed by agricultural wastes, very little was ever done prior to Walkerton by way of setting and enforcing binding standards on the farm sector's waste handling practices in Ontario. In 1984, the provincial government under then Liberal premier David Peterson passed the Ontario Environmental Protection Act, which came to be known as the Ontario "spills bill".¹⁹ Although the bill imposed new standards and procedures on the storage and transport of hazardous wastes, and also created clear financial responsibilities for handlers in cases of accidents, the government bowed to Ontario's powerful farm lobby and exempted the farm sector from inclusion in the bill.²⁰ This exemption is complemented by the federal Livestock Operations Act which specifically exempts large factory-farm operations from Canadian Environmental Impact Assessment regulations, and which *fails to distinguish livestock operations with more than 20 animals*. In tandem, these arrangements afforded livestock operations a comparatively laissez-faire regulatory milieu, ignoring the significant environmental and health risks associated with increasingly industrial livestock farms (Winston, 1993; Miller, 2000b; Beaulieu, 2001; MacLachlan, 2001).

Yet, a still-potent farm lobby, in combination with the Harris administration's ideological zeal for private property rights and regulatory rollback further undermined the social regulation of farm waste. Fiscal and administrative downsizing crippled the OMAFRA, where the total staff was reduced to 661 positions by 2000, down two thirds from a decade before. Moreover, in 1998, the Harris administration passed so-called "right-to-farm" legislation under the auspices of the Farming and Food Production Protection Act (FFPPA). The FFPPA centralized and bureaucratized regulation of farm waste, blocking community level complaints against farm operations, including those pertaining to manure handling and disposal, and created

instead the Normal Farm Practices Protection Board at the provincial level (Miller, 2000a). The Board, staffed with provincial appointments, and stacked by the Harris government with representatives from agro-industry, was given the authority to issue policy statements defining "normal" farm practices. Via this mechanism, municipalities and citizens were effectively blocked from restricting any farm practices that fell under the rubric of "normalcy" as defined by the Board. The FFPPA thus effectively strengthened the property rights of livestock producers by insulating them from the kind of political pressure envisioned by Polanyi—in short, intervening on behalf of the self-regulating market at the expense of wider social regulation. Not surprisingly, up to and after the Walkerton tragedy, there were in fact *no binding* requirements for manure storage or application in Ontario (O'Connor, 2002a).

Similar, systemic issues are apparent in provincial regulation of municipal drinking water supplies, and in provisions governing the protection and management of groundwater in Ontario. As noted, it was actually Bob Rae's social democratic NDP that first allowed private water testing labs as an option to provincial labs. In addition, it was the NDP that downscaled fiscal responsibility for water testing to the municipalities by introducing charges for the "service". But it was Harris's administration that force-fed the market solution to municipalities by closing all three regional public water testing labs run by the MOE in 1996—ending provincial testing. The market solution was subsequently extended, as noted earlier, by a series of steps, including changes to the Public Utilities Act, signalling provincial intentions to completely privatize the utilities themselves, and eventually, to create competition in the provision of municipal drinking water.

The Harris administration then created what proved to be a lethal combination of privatization accompanied by laissez-faire re-regulation. Despite forcing municipalities to contract out for water testing, the province passed no legislation or binding policy requiring either the municipality or the private labs to notify the province in cases of contaminated water. The province also failed to introduce any regulations whatsoever to control the quality of testing at the private labs, including no certification programs for labs or their staff, no provisions for inspection, and no auditing procedures. Despite privatization, and thus the need for new regulatory standards to guide private sector decisions and practices (Rees, 1998), there was no real oversight introduced whatsoever. In fact, the province did not pass any legally binding water quality standards of any kind until after Walkerton.²¹ In 1996, despite a

¹⁹ This was prompted by a near catastrophic 1979 train derailment in Mississauga, Ontario (just West of Toronto) resulting in the release of poisonous chlorine gas and the largest evacuation on Canadian history, and by grassroots mobilization around the problem of toxic pollution in Ontario's Chemical Valley, near Detroit (Adkin, 1998).

²⁰ Critical to the politics of this exemption was the farm lobby's familiar discursive representation of farmers as a yeoman class of small, independent producers in need of protection from the "burdens" of environmental regulations, a characterization clearly problematic in the context of increasingly industrial, and in some instances, thoroughly corporate farm operations.

²¹ "New Ontario drinking water laws come into effect following Walkerton tragedy", Canadian Press Newswire, August 28, 2000.

plethora of domestic and international evidence as to its potential toxicity, under Harris, the MOE actually dropped *E. coli* from a provincial contaminants list under the Drinking Water Surveillance Program, a program that was itself subsequently cut altogether.²² In addition, despite repeated calls from citizens and concerned scientists over years leading up to the Walkerton incident, the Harris administration also failed to develop a groundwater management plan. Finally, although the province conducted periodic inspections of municipal water systems and procedures, the lax guidelines for such procedures—not unique to the CSR but made more significant by privatization and *laissez faire* re-regulation—allowed systematic incompetence and fraud to go unchecked in Walkerton, despite inspections in 1991, 1995, and 1998 (O'Connor, 2002b). While the MOE knew of chronic problems in Walkerton, it took no steps toward legal enforcement of any guidelines or standards.

4.1. *An environment of risk and normal accidents*

The combined effects of austerity, administrative de- and re-regulation, and privatization have significantly re-jigged the social regulation of Ontario's environment and access to its natural resources, the fallout from which has had wide-reaching implications for the production of nature and environmental risk in the province. For example, by 1997, total fines levied against violators of provincial environmental standards dropped to their lowest levels in ten years, with no evidence of increased compliance. In fact, according to the North American Commission for Environmental Cooperation (2002), Ontario had by 1999 become one of the four largest sources of total chemical releases and total chemical "loadings", along with Texas, Pennsylvania, and Ohio—and ahead of states such as California and New York both with more than triple the population.²³ And, in a report issued in 2000, the Ontario Medical Association attributed 1900 extra deaths per year in Ontario to poor air quality in the province, laying most of the blame on the provincial government for failing to set and enforce adequate air

quality standards,²⁴ Noting the pervasive character of these trends, the Environmental Commissioner of Ontario wrote in her 1999 annual report:

Evidence of the deterioration of the province's environmental protection standards is widespread. The Ministry of Natural Resources' much reduced staffing and its reliance on industry self-monitoring raised questions about the ministry's capacity to protect the province's natural resources effectively... Environmental initiatives of the Ministry of the Environment, which have been highly touted by the Ontario government, are unlikely to deliver the level of protection promised... The ministry is retreating from enforcement of effluent limits and is making little progress on applying pollution prevention to hazardous wastes. It has promised to update 70 provincial air quality standards, but in two years, has produced only nine guidelines and no new enforceable standards. Less government in this case means less enforcement and less environmental protection. In order to maintain the semblance of environmental protection, ministry officials have resorted to describing the "co-benefits" of existing programs, attempting to involve industry in voluntary measures and transferring responsibility for environmental decisions to municipalities ... (emphasis added).

- Eva Ligeti, former Environmental Commissioner of Ontario, "A Message from the Environmental Commissioner of Ontario", 1999.

As a reward for her diligence, premier Harris had Ligeti fired from her post and replaced by Gord Miller, president of the federal Progressive Conservative Party's riding association in Harris's home electoral district of North Bay.

The sweeping climate of neoliberal reforms, and specifically those targeting environmental governance, imposed via the Common Sense Revolution also provided both direct and proximate causation in making the Walkerton water poisoning a normal accident of regulatory failure. This was not lost on Justice Dennis O'Connor in his first volume report on the tragedy. O'Connor emphasized the significance of budget and staffing cuts conducted without any assessment of the MOE's capacity to carry out its functions, and also cited low staff morale and a lack of initiative in the "regulatory culture" created by measures such as the Red Tape Reduction Bill as important contextual considerations. Specifically, it is important to consider links between the

²² "Contamination: the poisonous legacy of Ontario's environmental cutbacks", Ulli Diemer, *Canadian Dimension*, July/August 2000, v.34(4): pp. 33–35.

²³ The Commission for Environmental Cooperation of North America was set up under a North American Free Trade Agreement provision to deal with environmental concerns related to the implementation of the treaty. It is comprised of politically appointed representatives from Canada, the US, and Mexico, and could hardly be described as a crusader for stringent environmental protection. Chemical "loadings" includes on-site chemical releases, off-site transfers to other locations within the same jurisdiction, and the amount of chemicals received from another jurisdiction (Commission for Environmental Cooperation, 2002).

²⁴ Ontario Medical Association 2000. *Illness Costs of Air Pollution*. OMA, Toronto.

broad antagonism to environmental regulation created under the CSR, and the failure of ministry staff to close regulatory loopholes, including reporting requirements for private water testing labs. Clearly, there was no incentive in place to do so; in fact, quite the opposite was the case. As O'Connor writes "The evidence showed that the concept of a notification regulation would likely have been 'a non-starter', given the government's focus on minimizing regulation" (p. 33).

The fruits of these conditions for regulatory failure are evident in the Walkerton chronology.²⁵ On April 24, 2000, the town of Walkerton switched private water labs, from GAP Laboratories, an accredited water lab, to A&L Laboratories Canada East, a firm not accredited to conduct bacteria tests in Canada (but legally enabled to conduct such tests in Ontario because of regulatory gaps—that is, of systematic irresponsibility). On May 5th, A&L found contamination in samples of treated Walkerton water, and notified the town PUC. No notice was sent to either the MOE or the regional Medical Officer of Health. On Tuesday, May 16th, A&L Labs notified the town PUC that Well 7 was contaminated with 200 plus counts of *E. coli* per 100 ml of treated water, yet neither the lab nor the town notified the provincial health or environmental ministries; they were not required to. Two days later, A&L faxed the Walkerton PUC to tell them that the entire water system of the town was contaminated. Again, however, no notice was sent to health or environment officials; nor was one required. While there was evidence of systematic and serious contamination leading up to the crisis, it never reached the provincial environment or health ministries. And while it is true that during the crisis, information was intentionally obscured by PUC management negligence, and while Public Utilities Commission manager Stan Koebel did lie about the results of water tests, *at no time was there a regulatory requirement in place requiring anyone to notify the province*. Moreover, there was no system in place for evaluating and weeding out people like the Koebel brothers who were categorically unqualified for staffing a municipal water utility.

As for the farm waste that caused the contamination, the absence of more stringent standards, and a groundwater protection plan for areas of risk prone hydrology, including the karst in Walkerton's environs, seems implicated. It bears repeating that the actual source of contamination was a farm near the town's suspect Well 5, and that the particular farm in question is not typical of the province's increasingly industrial livestock operations. Moreover, as Justice O'Connor noted in the first inquiry report, the owner of the farm

appears to have followed provincial guidelines on agricultural waste disposal (O'Connor, 2002b). Yet, if a relatively small farm producing moderate amounts of waste could nevertheless so severely contaminate a town's drinking water, this should only underline the potential risks associated with larger operations and volumes of waste. Moreover, if Dr. Biesenthal indeed followed provincial guidelines, this does not resolve whether such guidelines were adequate, and indeed, whether non-binding recommendations or best practice "suggestions" are an appropriate approach to environmental regulation at all.

5. Conclusion

Inevitably, I have omitted essential elements of the Walkerton story, and of environmental neoliberalism in Ontario, from this narrative. This includes important political and regulatory responses to Walkerton's tragedy, including the Walkerton inquiry itself. O'Connor's (2002b,a) findings directly implicated the Common Sense Revolution project of rollback environmental neoliberalism for creating the conditions for the incident to occur—in short, for making it a normal accident. The inquiry recommended specific changes in provincial regulations, including recommendations that helped lead to the Nutrient Management Act, passed in June of 2002. This legislation committed the province to establishing binding standards for manure spreading and disposal, including setbacks from surface water for manure spreading and caps on the total amounts of manure that can be spread per unit area of land. The adoption of inquiry recommendations, and indeed the very creation of the inquiry as a response to public outrage over the tragedy indicate that although the Common Sense Revolution reflected and reinforced the hegemony of neoliberal ideology in contemporary governance, this hegemony is neither natural nor automatic, but is instead politically constructed and contingent (Peck, 2001). Similarly, the capacity and courage shown by many residents of the Walkerton area—some of whom attempted to redress regulatory lapses prior to the tragedy—has been inspiring and impressive, particularly as led by the Concerned Walkerton Citizens coalition. Such efforts further indicate the fragility of neoliberal hegemony if and when particular neoliberalizations are challenged based on their evident political ecological contradictions. Here too, Polanyi's dual movement thesis, suggesting opposing political tendencies toward and in opposition to market self-regulation, remains highly relevant as a perspective on neoliberal projects and their politics (Polanyi, 1944). Although I have not focussed on these resistance politics, I do not thereby mean to suggest their absence, whether mobilized against the Common Sense Revolution in general

²⁵ Based on the inquiry report (O'Connor, 2002b) and "The Walkerton Story", Toronto Star, Saturday October 14th, 2000.

(see Keil, 2002), or specifically challenging environmental neoliberalism.²⁶

What I have tried to emphasize and demonstrate here is that the Walkerton case points to some important themes with implications that go beyond the town and the circumstances of its tragedy, and indeed beyond Ontario and its Common Sense Revolution. One of these themes is the extent to which neoliberalism is an inherently environmental project, again reinforcing a key message of this special issue of *Geoforum*. As the scope of environmental re-regulation in Ontario under the Common Sense Revolution makes plain, reform of environmental governance was not incidental, but rather absolutely central to Ontario's neoliberal turn. Conversely, neoliberalism in Ontario led to significant restructuring of the province's environmental regulatory apparatus. The degree to which this was true in Ontario may well not be indicative of all neoliberalizations, reflecting the particularities of Ontario's political economy. This too is a theme of the essays collected here, and indeed one that runs through the literature on neoliberalism: namely, each specific neoliberalization is just that, specific, contingent, and geographically constituted. As Gibson-Graham might frame it, the "word" neoliberalism should not be used, even unwittingly, to essentialize and further reify the thing(s) (Gibson-Graham, 1996). As we argue in the introduction to this volume, there is a need to appreciate *both* diversity *and* consistency across particular neoliberalizations.

This in mind, the implications of the Common Sense Revolution for environmental governance in Ontario, and the role that environmental neoliberalism played in the Walkerton tragedy, reinforce that critical scholarship must be attendant to the strong connections linking neoliberalism and nature. In Walkerton's tragedy, the production of environmental risk was tied to a new, neoliberal mode of social regulation that critically undermined environmental governance. It did so by placing a chill on the establishment and enforcement of regulations; by creating systematic irresponsibility via the discursive and institutional rubric of Common Sense neoliberalism; and more directly (but not necessarily more significantly), by propagating risk in the form of key gaps in regulation of agricultural waste disposal practices, groundwater management, and safeguards of municipal drinking water. All of these made the Walk-

erton tragedy a normal accident of environmental neoliberalism.

What the Walkerton case also indicates, however, is that making broad links to the prevailing mode of social regulation in the production of ecological risk and contradiction need not obviate the significance of particular local political ecology. In Walkerton, a specific and risk prone hydrological regime in proximity to livestock production, and the scandalous misconduct of PUC staff turned a normal accident into a specific one. Analyses of the political ecology of neoliberalism must therefore retain some attention to "nature's materiality" (Castree, 1995), what Harvey (1996, p. 183) terms "an unparalleled terrain of difference", as well as the local politics and institutions through which social relations to nature are mediated. Though the specifics of Walkerton's political ecological setting matter, the fact that they matter is not exceptional. Rather, as Polanyi recognized, biophysical nature is necessarily fictitious as a commodity, never wholly responsive to price signals and always central to everyday life in ways that conflict with (neo)liberal markets. Ecological contradictions thus comprise an essential facet of the actual geographies of neoliberalisms, an additional source of the fractures, fissures, and disjunctures that are as endemic to particular neoliberalisms as is blind market worship itself (Brenner and Theodore, 2002). If any good can come from an accident like Walkerton's May, 2000 tragedy, it is to undermine the all-encompassing, end-of-history narratives of neoliberal ideology and discourse, and to serve as a reminder that social regulation of nature under late capitalism is meant to protect us from the self-regulating market, and not the other way around.

Acknowledgements

I would like to thank Bruce Braun, James Glassman, Andrew Leyshon, James McCarthy, Juanita Sundberg, and two anonymous referees for providing comments and suggestions on earlier drafts of this paper. Any remaining errors or ambiguities are my responsibility alone.

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²⁶ The Ontario Coalition Against Poverty (OCAP) was and remains a staunchly effective source of resistance against neoliberalism in Ontario, as have been some of the public sector unions, including the Canadian Public Employees Union (CUPE), and the Ontario Teachers' Federation. CUPE was also very active in pointing out environmental regulatory gaps opened up by the Harris government, as were NGOs such as the Canadian Environmental Law Association and the Canadian Institute for Environmental Law and Policy.

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