

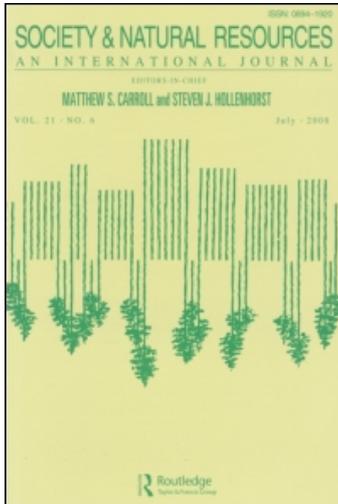
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The Politics of Sewerage: Contested Narratives on Growth, Science, and Nature

J. Marvin R. Macaraig ^a; L. Anders Sandberg ^b

^a Department of Geography, University of Toronto, Toronto, Ontario, Canada ^b Faculty of Environmental Studies, York University, Toronto, Ontario, Canada

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The Politics of Sewerage: Contested Narratives on Growth, Science, and Nature

J. MARVIN R. MACARAIG

Department of Geography, University of Toronto, Toronto,
Ontario, Canada

L. ANDERS SANDBERG

Faculty of Environmental Studies, York University, Toronto,
Ontario, Canada

Relevant actors in environmental resources disputes base their positions on specific assumptions about growth, science, and nature, and construct narratives to support these positions. The contest over the extension of a sewerage system in Ontario, Canada, illustrates this point. A productivist narrative sees sewers as necessary to meet the competitiveness of the city region and a growing demand for housing. It assumes that science can accommodate local resilient ecologies and human bodies. A nature conservation narrative, by contrast, embraces a conception of no or slow growth, locally integrated water management, and vulnerable ecologies and human bodies. It is, however, compromised by a NIMBY bias, an aesthetic focus on nature, and a continued endorsement of regional growth. We conclude that narratives on growth, science, and nature are not given, but socially produced, historically contingent, strategically deployed, internally compromised, embedded in specific power relations, and open to contestation and challenge.

Keywords growth, narratives, nature, Ontario, politics, science, sewerage, York Region

This article investigates different visions of growth, science, and nature in the policy formation process, using as a case study the conflict surrounding the extension of a sewer system in one of North America's most rapidly growing regions, the Greater Toronto Area (GTA). We accept the basic premise that conceptions of society are socially produced and that specific narratives reveal basic assumptions about growth, place, and nature and the role of science and technology in mediating their interaction. We also point to a politics of claims-making where competing narratives clash and where resolutions both convey biases as well as possible alternatives. The

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Address correspondence to J. Marvin R. Macaraig, University of Toronto, Department of Geography, Sidney Smith Hall, Room 5047, 100 St. George Street, Toronto, ON, M5S 3G3, Canada. E-mail: marvin.macaraig@utoronto.ca

case study goes beyond an analysis of the validity of opposing arguments of the efficacy of the sewerage system in question to explore a bigger story about how urban regions could imagine growth and management in different ways.

The York Durham Sewerage System, commonly known as the Big Pipe, emanates in the northern regions of the GTA and ends up at a central sewage treatment plant east of Toronto in the City of Pickering, where treated sewage water is released into Lake Ontario. It is allegedly one of the longest sewer systems in the world (Barber 1997). Up to the 1960s, the beginning urbanizing areas of this region relied on well and septic systems and small/local treatment plants that passed treated water into the local river systems. This, however, was deemed insufficient to meet the need of an expanding city region. The Big Pipe was conceived to meet the growing demand, and built over the next 25 years, allowing the closing of 12 local water pollution control plants discharging water into numerous GTA watercourses (York Region and Durham Region 2006). Various extensions have since been added and more are planned. Environmentalists and local residents have claimed that the new expansions have caused and will continue to cause long-term environmental damage in an area that is both ecologically sensitive and significant, and that the chief proponent of the project, York Region, should either conduct more extensive monitoring prior to construction or stop construction altogether (Josey 2004).

This article examines two sewer extension projects that are associated with the Big Pipe, namely, the portion that links King City to the main trunk line, and another that runs alongside 16th Avenue in the Town of Markham (see Figure 1).

When finished, these extensions will help carry an estimated 740 million liters of raw sewage daily from both York and Durham Regions to the treatment facilities on Lake Ontario in Pickering (Swainson 2004). The King City portion was contemplated in the early 1990s, but was resisted successfully for over a decade. It was first approved in 2003 after several legal contests over jurisdictional control and environmental impact. King City is a wealthy exurban community with low-density estate

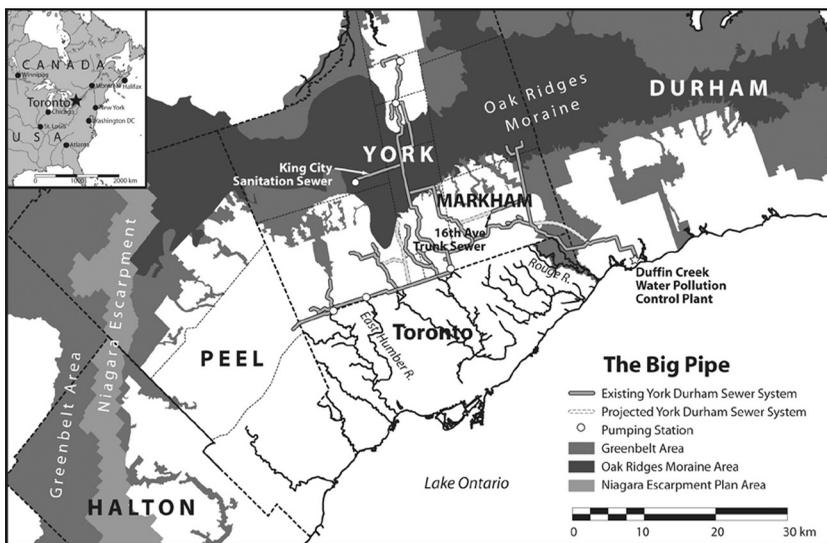


Figure 1. Location map of the Big Pipe.

homes and numerous equestrian farms that still use septic systems and well water. The community has been split on the support for the Big Pipe, but the forces in favor prevailed in 2003 after numerous court battles between York and King Councils, ranging from the actual diameter of the sewer pipe to what jurisdiction has control over sewer collection services. Construction began in March 2005 at a total project cost of approximately \$40 million.¹ The project consists of a regional forcemain of approximately 6 km with a diameter of 0.45 m.

The 16th Avenue trunk sewer expansion is situated in the Town of Markham. The town is a wealthy suburban community with a larger population than King City. Most residents are already serviced by older sections of the Big Pipe and there is considerable support from civic leaders for the current extension. It consists of a 7.2 km pipe with a diameter ranging from 2.1 to 2.7 m with a final cost of \$91 million, which includes a \$30 million Environmental Monitoring and Well Mitigation Plan (16th Avenue Trunk Sewer Project 2007a; York Durham Sewage System (YDSS) Servicing 2006a; YDSS Servicing 2006b). When completed, the King City and Markham Sanitary projects are stated to have the capacity to handle both the current and any future approved growth within the immediate area (YDSS Servicing 2006c).

The public and private sectors and civil society actors have been heavily involved and represented in the development of both the sewer extensions. The primary actors are the federal and provincial governments, York Region, the City of Toronto, private development interests, local area residents, various citizen groups ranging from smaller locally based nongovernmental organizations (NGOs) to larger transnational groups, and the sewage itself. The material used for this article was collected over a 3-year period, from 2004 through 2006, from an extensive coverage of the issue in the local newspapers and the technical reports published by state authorities, consultants, and environmental and residents' organizations. These sources highlight the various points of view of both community officials who backed the development and local resident opponents. All technical/scientific documents, media releases, and reports publicly available were consulted on York Region's official web site² and various web sites of other state institutions and environmental groups. Only four 1-hour semi-structured interviews with experts were conducted within the affected communities. More experts were approached but declined to be interviewed because of the politically charged nature of the disputes. Interviewees were selected based on their self-identification and public involvement with the issue. Several interviewees with intimate knowledge of the issue took part in interviews only when anonymity was ensured. Three separate requests for interviews with experts were not returned. Field notes obtained as participant observers and informal interviews with involved actors during press conferences and other educational/professional symposiums that covered the issue were also solicited.

Politics and Narratives of Growth, Science, and Nature

It is well recognized that the interaction of agents in environmental disputes is influenced by a wide gamut of political and economic pressures. Such concepts as growth, science, natural processes, and environmental impacts are socially produced as narratives and intricately linked to cultural norms, values, and social class positions (Castree 2005; Bocking 2004; Frickel and Moore 2006). Such narratives convey deeper assumptions about development, and reveal rhetorical strategies that put

closure or boundaries around specific understandings. Narratives are thus not ontologically absolute but socially produced, contingent, and malleable categories that can be used differentially and tactically to support different policy positions (Cox 1998; Marston 2000; see, for example, Chambers and Sandberg 2007). The access to political power and material resources is central to the social production of any narrative, as is the attention to rules and rulemaking that typically underpin them.

In suburban and exurban areas, there are arguably two dominant narratives that compete for hegemonic status. A productivist narrative supports development activities, typically corporate in nature, such as aggregate extraction (sand, gravel and limestone), infrastructure building (roads and sewers), tract subdivision housing development, shopping malls, and industrial parks. In Canada, it is supported by a frame of rulemaking in environmental resource disputes that favors economic and population growth of regions, provinces, and the nation. Canadian control of natural and environmental matters is largely in the hands of the provinces. The provinces are also the primary agents in charge of promoting growth, setting growth targets for population and infrastructure development for lower jurisdictions to enforce. Similarly, the municipalities in the GTA position growth as a priority in maintaining a competitive position in a global economy (Hanna and Walton-Roberts 2004). While there is federal legislation pertaining to some environmental impacts, the federal government and bureaucracy are notoriously reluctant to interfere with provincial planning legislation that favors growth (Harrison 1996).

A nature conservation narrative, on the other hand, favors a conception of slow or no growth, a precautionary science, and the setting aside of certain lands for varying levels of "protection." In the GTA, it is manifested in the recent protection of extensive green spaces, amounting to more than 700,000 hectares through two prominent pieces of legislation: the Oak Ridges Moraine and the Greenbelt Acts and Plans (see Figure 1).³ However, though highly celebrated and publicized, the conservation legislation contains a number of provisions that continue to endorse elements of continued growth, among them the accommodation of sewers and roads. It also fails to address leapfrog development beyond the greenbelt. For these reasons, it has been argued that the broader dynamic of the nature conservation legislation has served as a lubricant of rather than a hindrance to growth (Wekerle et al. 2007).

The conservation narrative is also fueled by powerful post-productivist values. These values support a rural aesthetic that is commensurate with the exclusive living of a growing class of professionals and retirees moving into the countryside (Murdoch and Marsden 1994). They also favor an aesthetic of a pastoral rurality where nature is enjoyed and appreciated. Post-productivist values are increasingly popular in the Canadian suburbs and exurbs (Wallace and Shields 1997). At a first glance, productivist and post-productivist values appear as opposites but they do in fact have a lot in common. They are both often elitist in outlook, favoring politically and economically powerful actors. The aspirations of post-productivist communities, such as King City, are often contradictory, fighting developments (roads, housing, and aggregate pits) while still relying on them for building material, automobile access, and the servicing of golf and equestrian clubs (Hanna and Webber 2005). They are therefore socially exclusionary and vulnerable to charges of NIMBYism (NIMBY = "not in my back yard"). Nature is typically aestheticized to protect property values rather than for its inherent worth (Duncan and Duncan 2004). Post-productivist visions thus obscure alternative growth and nature scenarios that may be associated with older residents, such as farmers, loggers, and First

Nations peoples, or new residents who may require high-density, low-cost rental housing, public transit, and combined home and work arrangements. They also fail to imagine that the boundaries between productivist and post-productivist activities can be dissolved, where human and ecological processes complement rather than are at odds with each other (Patano and Sandberg 2005; Chambers and Sandberg 2007).

Different narratives of sewerage systems often correspond to different conceptions of growth and nature. A typical modern system, where water runoff and human waste are carried in combined or separate sewers for treatment in special plants on lakefronts and/or dilution in local rivers and lakes, lends itself well to productivist ventures that channel water over extensive hard surfaces into drain, pipes, and retention ponds. The modern system is clearly favored by provincial regulators for its proven track record, and it readily passes mandatory environmental assessments when proposed in Ontario (Budziakowski and Manoharan 2000). But such a system is not an absolute (Gandy 1999). Integrated water management operates on the principle of recycling water locally, cleaning, for example, wastewater through septic, wetland, or living systems, and recycling rainwater through green roofs, disconnected downspouts, and other green infrastructure (Ashley et al. 2007). Such alternative wastewater treatment technologies are rare and must be operated as pilot projects basis and face long-term and stringent tests before approval (Budziakowski and Manoharan 2000). Soft-path proponents who suggest that existing water demands can be reduced or eliminated through more efficient technologies, such as low-flow or composting toilets, face even greater obstacles (Brandes and Brooks 2007). These alternative wastewater systems may be associated with post-productivist values where estate housing, parklands, and extensive land use prevail. But other scenarios may include mixed-density social and rental housing, public transportation, and integrated work and home neighborhoods. These alternative systems of wastewater narratives point clearly to different assumptions about the interaction and metabolism between humans, nature, technology, and waste, and how and who should be responsible for their handling.

Narratives on the Construction of the Big Pipe

In the case of the Big Pipe, the productivist narrative frames growth, science, and nature in several specific and unique ways. The Big Pipe, as the name implies, is constructed at a “big scale,” presented as a massive and essential undertaking for the GTA and the province. York Region, as the chief proponent, maintains that the completion of the project will resolve a bottleneck in the development of residential and commercial developments in the region. York Region’s population is currently 910,000, but the region projects this to grow to over 1.5 million by 2031 (YDSS Servicing 2005a). In fact, official boosters consistently scale the region as a growth engine of Canada, describing it as contributing approximately \$31 billion to Canada’s economy while the construction industry creates 40,000 direct and indirect full-time 1-year jobs and a total of \$2.1 billion in wages. York Region boasts that its economy exceeds the provincial economies of New Brunswick, Nova Scotia, and Prince Edward Island combined, with the second lowest unemployment rate of recently surveyed municipalities (York Region 2004). In response to this projected growth, York Region sees an increase in the existing capacity of the Big Pipe as a requirement (16th Avenue Trunk Sewer Project 2007b). Supporters of the Big Pipe

state that as the population of the GTA rapidly increases, both the demand and requirement for affordable housing would also increase. The construction of the Big Pipe would then adequately allow for York Region to adequately build, plan, and further develop areas in response to this looming housing crisis. In King City, backers of the development have also stated that building a sewer would make running (and expanding) a business easier and thus would allow for a rejuvenation of the downtown area.

York Region and its scientists also portray the Big Pipe as internationally progressive, taking advantage of state-of-the-art technology and employing new construction techniques that utilize, for example, remote-controlled surveillance cameras from inside the sewer to aid in the detection of leaks. According to one official, York Region “relies upon the same proven technology used in the majority of Ontario municipal sewage systems and is the most technically efficient solution that complements the existing York Durham Sewage System” (Fisch 2004, 21). The technology employed is typically also seen in the context of a resilient nature, containing arguments that the ecology, if affected negatively at all, will rebound, or that technological solutions will mitigate or avoid negative impact. The productivist narrative also paints dire consequences for nature in case the extensions are not built, and so-called overflows or backups occur in the existing system. This is described as producing a “risk of flooding, resulting in unacceptable risk or damage to personal property and the environment . . . penalties against the Regions, expensive cleanups of any adjacent watercourse or other impacted natural features, and the loss of enjoyment/use of public/private property” (York Region and Durham Region 2006, 6).

The Big Pipe is also constructed as progressive in light of what is labeled older inefficient technologies that operate on the local scale. The construction and expansion of the Big Pipe is thus imagined as a way for communities to move from existing septic-tank systems to newer/modern trunk sewer systems. In King City, groundwater is the primary source of drinking water. York Region officials routinely pointed to the comments of its medical officer of health Helena Jacek, who claimed that the septic systems are inadequate in safely disposing household sewage and routinely contaminate the Humber River (Swainson 2003a). Experts from R. V. Anderson Associates Ltd., an engineering consulting firm, were commissioned and presented their findings at various public meetings and recommended that the city connect to the Big Pipe. The environmental assessment conducted by the group revealed that the waterways that flow through King City are contaminated by human waste as a result of leaking septic systems, and that the level of *Esherichia coli* and fecal coliform was measured at 111,000 parts per 100ml of water, and further made note that Toronto beaches are closed at 100 parts *E. coli* per 100 ml of water (Cosentini 1995). Connecting affected communities to the Big Pipe was presented as the only viable solution that could safeguard and guarantee the future health of King City residents. York Region in fact maintained that the human health concern was the primary driver for initiating the King City sanitary project (anonymous, personal interview 2005). In presenting this point, the region repeatedly made references to safe municipal drinking water, in particular drawing parallels between King City and the tainted water crisis that occurred in the 2000 Walkerton (Ontario) incident, where thousands of residents of the town became ill and seven people died from drinking municipal water contaminated by *E. coli* and *Campylobacter jejuni* (YDSS Servicing 2006c; O'Connor 2002; Prudham 2004).

The proponents of the nature conservation narrative—various NGOs and local residents—have chosen in particular to frame their challenge in terms of regional urban sprawl and a science discourse grounded in regional and local ecologies, locally based technologies, and the health of the human body. These interests argue that the Big Pipe will open the doors to further suburban expansion onto the Oak Ridges Moraine. They paint a picture of a heavily stressed urban natural area that provides recreational opportunities to visitors in the form of angling, canoeing, hiking, and bird watching. They imagine the local Rouge River watershed, for example, as part of a continuous natural corridor linking the Oak Ridges Moraine from the north to the shores of Lake Ontario in the south. They emphasize that the watershed harbors one of only 36 critical Carolinian forest sites remaining in Canada and several provincially significant wetlands and environmental sensitive areas. The biodiversity of the area is described as outstanding and is further made significant considering the watershed is located within the heavily urbanized GTA. By framing the issue in terms of “pipe-driven sprawl,” opponents utilize science to point to the various negative environmental effects that are inherent to low-density, automobile-dependent developments. One typical argument laments the reliance of municipalities on building levies for tax revenue to meet provincial quotas on growth. In this situation, once communities are linked up to the Big Pipe, increased densities are needed to pay for it, and once the density thresholds are achieved, a further expansion of the pipe is needed to handle the increased density. This cycle, one commentator argues, “will continue until York Region is paved all the way up to Lake Simcoe and beyond” (Doran 2006, n.p.).

Development on or near the Oak Ridges Moraine is also portrayed as disrupting its ability as a repository and filter of water (Bocking 2005). This is alleged to occur both in the construction of the Big Pipe and in its subsequent day-to-day operations. The negative environmental impacts associated with the construction techniques revolve around the massive amount of water that must be removed for safe construction to occur. York Region permits allow for 27 billion liters of water to be removed, while opponents claim that the actual number is closer to 66 billion liters (Gorrie 2004) or approximately 100 million liters per day (Swainson 2005). Opponents point to the ecological significance of the area where construction is occurring, pointing to the drying of local wells and the expense of drilling new ones.

The nature conservation narrative also uses science to critique the technology and engineering “know-how” of the Big Pipe once in operation. It claims that the dewatering required to allow for the construction of a trunk sewer buried deep into an aquifer bed would result in significant disruptions to both surface- and groundwater flows in the YDSS service corridor, and water that would be destined for Lake Simcoe and the upper Great Lakes will be diverted to Lake Ontario (Great Lakes United 2004). The nature conservation narrative further posits that it is extremely difficult to both detect and fix leaks that may develop over its life span. The cracks may also cause the surrounding groundwater to leak into the sewer system and thus precipitate an ongoing loss of water from the adjacent aquifer system, to the detriment of rural wells and local watersheds. Environmentalists refer to this process as the “moraine drain,” and predict dire consequences for the hydrological integrity of the Oak Ridges Moraine as a whole. Local environmentalists argue that the chosen method of construction for the Big Pipe was simply selected for economic reasons since it was the cheapest solution. They urge York Region to examine and explore other methods that could drastically limit the potential for hydrological harm.

One citizen explains that a system of shallow dug sewage pipes utilizing a network of pumping stations could limit the ecological impact incurred for this type of development, though such a system would cost more when compared to a deeply buried gravity feed system (Jim Robb, Rouge Duffins Greenspace Coalition, personal interview 7 April 2005).

Opponents of the Big Pipe use science-based human health discourse to frame their arguments. In King City, one aspect centers on septic tank systems and the safe treatment of sewage. Opponents argue that residential septic tank systems have been proven historically, are both safe and reliable, and are ecologically benign. Commissioned scientists, among them “top Canadian epidemiologist” and professor of public health Phil Mathias, showed that King City’s septic systems are not dangerous, with routine investigation uncovering that fewer than 100 malfunctions had occurred over a 10-year period and that streams in areas served by the Big Pipe are more polluted (Barber 1998; 2003b). Mathias also scrutinized the affidavits filed with the Ontario Superior Court of Justice by York Region’s medical officer of health Helena Jaczek, who stated that leaking septic tanks in King City posed a serious health threat and that sewage outflow routinely entered the Humber River. Mathias countered that his studies indicated the very opposite and that the bacteria levels were higher in the Humber River prior to arriving at King City and diminish downstream. Moreover, the levels of *E. coli* in the Humber River were at low enough levels that they presented “virtually no risk,” as opposed to Jaczek’s claims of “significant risk” (Swainson 2003a, 2). Opponents argued instead that the defining factor in the failure of such systems is strictly related to the ecological carrying capacity of the area, and not its design, and recommended alternatives that would employ smaller community treatment facilities and irrigation sewage lagoons at a cost less than required for constructing the sewer extension to King City. Kerry Shin of the Safe Sewage Committee therefore stated that the “so-called ‘public health crisis’ that has been the excuse for extending the Big Pipe to King City is a transparent red herring, at best” (King Environmental Groups 2004, 2). Residents are further concerned about the environmental assessments of the sewer extensions, arguing that they have been separated deliberately rather than combined. One activist has thus argued that a combined assessment for the overall extension of the Big Pipe should be required and that the current assessments are based on misinformation, abuse and vulnerable to legal challenge (Robb n.d.). The narratives supporting and opposing the Big Pipe have thus been underpinned by different assumptions associated with growth, science and nature. But what are the politics surrounding these narratives? Which one has prevailed and why? And what narratives may have been excluded altogether?

The Politics of the Big Pipe

The widespread defense of local place and health and the protection of regional and local ecologies and natural processes, such as the Oak Ridges Moraine (and its unique position as a cleanser and source of water and its unique fauna and flora), speak to the power of the nature conservation narrative. It is clearly dominant in the popular discourse. A steady stream of stories on the plight of the Oak Ridges Moraine and its rare physical attributes and essential ecosystem functions has figured prominently in the media. Edey et al. (2006) studied the role of the media and its implication within the Oak Ridges Moraine planning issue, and state that a key factor in the overall success of the pro-conservation agenda

was that the opponents to development were consistently given more space and time to make their case, and thus were portrayed more favorably. The authors report that of 232 articles, a content analysis revealed that there was a significant overall bias in favor of conservation. At that time, the once obscure Jefferson salamander (*Ambystoma jeffersonianum*), a threatened species whose range encompasses the moraine, became a regular fixture in the local media debate. Such positioning by the media has further highlighted how both nature and the Oak Ridges Moraine have captured the attention and interest of the broader public (McElhinny 2006). In response to these concerns, the province implemented heavily publicized conservation legislation protecting the Oak Ridges Moraine and a wider greenbelt surrounding the GTA, legislation that has received international attention and awards for its progressiveness.

There are, however, several instances where the broader dynamic of rulemaking favoring growth is both reflected and reinforced by the politics surrounding the Big Pipe. In King City, a gradual transfer of control has occurred from the local to the regional and provincial scale. The strongest opponents of the Big Pipe reside in King City or the areas adjacent to it (anonymous York Region Official, personal interview 2005). At one point, the sewerage system in King City was local, and under full control of the city. The local council used this provision to fight the Big Pipe. One-time councilor Jane Underhill vigorously opposed the Big Pipe, in spite of a personal death threat. In 1997, however, the Big Pipe was sold by the province to York Region as part of a general downloading of responsibilities to the municipalities (Barber 1997). In 2001, it paved the way for pro-Big Pipe forces in King City and York Region to redefine or rescale the Big Pipe as a trunk sewer, thereby putting it under the jurisdiction of York Region (Barber 2001). King City countered by taking York Region to court in 2003, only to concede the issue later in the year after a newly elected council voted 5–2 to accept the Big Pipe (Swainson 2003b; Barber 2003a). In spite of continuing objections, York Region has begun the construction with all phases of the project anticipated for completion in 2009.

The second prominent instance of the support for the Big Pipe is illustrated by the subordinate role taken by the federal legislation in the controversy. In July 2004, a private prosecution was brought against York Region, based on claims that the construction of the 16th Avenue trunk pipe extension had specifically violated Sections 35 and 36 of the federal Fisheries Act. The Toronto-based lobby group Environmental Defence aided local citizen Jim Robb to move from local and provincial interventions to using federal legislation to fight the Big Pipe. Section 35(1) of the act states, “No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat” (Canada, Department of Justice 2008). If convicted under the Fisheries Act, defendants could be fined up to \$300,000 a day (Josey 2004).

Robb had carefully documented some of the negative ecological effects that had occurred to nearby streams and creeks as a result of dewatering. This documentation was prominently displayed in the local newspapers and various web sites. He argued that York Region’s proposed corrective measures for the project were inadequate despite receiving approval from the required provincial regulatory agencies. Through these legal proceedings Robb asked that York Region follow through with a federal environmental assessment to further examine alternatives, impact avoidance, mitigation, and the overall cumulative effects of such a construction (Jim Robb, Rouge

Duffins Greenspace Coalition, personal interview 7 April 2005). He had support from many fronts. Both a justice of the peace and a Superior Court judge ruled that there was sufficient evidence to suggest that the project was violating the Federal Fisheries Act. A former assistant deputy minister of the provincial Ministry of Natural Resources also wrote to the federal fisheries minister that “While the proposed mitigation [of the dewatering] is ingenious and intriguing from an engineering point of view, (we are) unaware of any similar undertaking being tried elsewhere, let alone achieving success” (Gorrie 2004, 1).

In the end, however, Robb’s private prosecution against York Region was stayed by the Attorney General of Canada in November 2005, basing his decision on his own investigation in conjunction with staff from Environment Canada and the Department of Fisheries and Oceans.⁴ He argued that the charges brought forth by Robb had serious deficiencies, and that there was no reasonable prospect of conviction to those charges. Andrew Sabbadini, senior counsel for the Federal Department of Justice, advised,

Given that the Regional Municipality of York [York Region] has a compelling defence to the charges brought by Mr. Robb, and given that there are serious deficiencies in the private prosecutor’s evidence, the Attorney General is of the view that there is no reasonable prospect of conviction to those charges. The Attorney General will, therefore, be intervening and staying the charges. (YDSS Servicing 2005b, 1)

What the counsel neglected to state, however, was that York Region and the Department of Fisheries and Ocean had struck a previous undisclosed arrangement for mitigation, an arrangement that was only disclosed at the hearing. At the near close of the hearing, a lawyer for the attorney general thus stated confidently that “even if an offense had occurred, [the agreement]... would probably serve as complete defense to the charges” (Rusk 2005, 19). His opinion proved right, supporting Harrison’s (1996) general claim that the federal government is reluctant to interfere in a provincial development project, in spite of compelling evidence speaking for intervention.

A third instance that illustrates the contested yet positive support for the Big Pipe revolves around the formation of a coalition between various interests within the City of Toronto, and local opponents to the Big Pipe. In 2005, the Toronto City council voted 34–3 in opposition to the current design of the Big Pipe by attempting to scale the issue at the regional level (Lewington 2005). The council argued that the project had the potential to impact local fish life and decided to spend \$100,000 for an independent study on the impacts of construction on the watersheds and their related waterways that flow through Toronto. Considering the area’s ecological significance as the headwaters of many rivers that flow south through Toronto and out towards Lake Ontario, Toronto’s Mayor David Miller expressed concerns over the project’s potential to disrupt both the quality and quantity of water that flows through its various waterways. Miller stated, “In general terms it’s important for the City of Toronto to stand up for our water supply” (Lu et al. 2005, 5). Miller echoed activists’ claims in 1998 that Toronto “is becoming the toilet for all of the suburbs” and “[t]he more we rely on these old postwar systems that need a lake to dilute the sewage, the more we let our drinking water get dirty as hell” (cited in Barber 1998, 10). The vision was that “parties from both sides of the great divide

are coming together in common cause” (cited in Barber 1998, 10). Warnings drawn from different jurisdictions were solicited in this contest, with one newspaper reporter arguing that the Toronto region not adopt “the old ways of New Jersey North—forcing urban sprawl by running oversized sewer pipes through every green hill and dell” (Barber 2003b, 23). At a different time, Toronto Mayor Miller had stood shoulder to shoulder with Robert F. Kennedy, Jr., in protecting the Catskill Mountain headwaters of New York City’s municipal reserves. He now pledged the same support for Toronto’s headwaters (Barber 2005a, 14). Yet the political leaders of York Region were incensed by Toronto City Council, with the mayor of Markham, for example, stating, “We don’t stick our nose in Toronto’s business . . . [w]hy then should Toronto stick its nose in ours?” (Barber 2005b, 10). In the end, of course, the suburbanites’ productivist narrative prevailed.

A fourth instance of support for the Big Pipe lies in York Region’s dubious framing of private sector and local citizens as equal stakeholders in “open forums” and/or “public consultations.” Public input has in part occurred through the deployment of York Region’s \$30 million Environmental Monitoring and Well Mitigation Plan. The plan contains an emergency hotline where residents can call if their household water supply unexpectedly drops, an event that may occur as a function of the water draining activities necessary for the burying of the Big Pipe at depths well below the water table. York Region has pledged to provide households with water and to immediately stop construction should such drops in water occur. Several residents located near the 16th Avenue construction sites have since reported the drying up of wells; those highly dependent on such water sources, such as farmers, have spent up to \$10,000 each to drill new wells; and approximately 75 residents have shown up at their local council chambers pleading with their officials to seek alternative solutions to the Big Pipe. Yet York Region officials have told residents that it is unlikely that dry wells are a direct result of the construction as the areas in question are too far apart. The scientists hired by York Region concluded that the low water levels reported by locals were the result of an unusual lack of seasonal precipitation and stated that normal conditions would be restored over time. Declining water levels were attributed to “Mother Nature conducting [her] business,” and “[b]ased on our monitoring, there is nothing telling us this is related to the dewatering” (Swainson 2004, 3).

York Region’s various web sites on the Big Pipe development project also provide an illusory transparency and openness to public involvement. The official stated purpose of these Internet portals is to better facilitate communication between stakeholders involved with the project and encourage visitors to sign up for automatic e-mail notifications on specific project developments. But while the portals make information easily accessible, the claims to entertain public input are seriously suspect. Most of the information is technical in nature, such as environmental reports produced by contracted consulting firms and correspondence between York Region and numerous regulatory agencies, and input is merely recorded or responded to in a formal and formulaic legal and technical language. Other information is trivial and of a public relations nature, such as a note on a grade-school class competition to “help us name” a tunnel boring machine for the Big Pipe.

The politics of the Big Pipe, then, show a contested history, though the construction of the extensions covered here is now a foregone conclusion. We need to be reminded, however, that these contestations have in large part been elitist in

nature, a circumstance that has both compromised the opposition to the Big Pipe and obscured visions of alternatives. On the one hand, developers and their supporters have often dismissed the protests against the Big Pipe on social justice and NIMBY grounds, claiming that the lack of an expanded sewerage system will affect the affordability/availability of housing, job creation, and eventually could pose a threat to the region's economy (Swainson 2007). On the other hand, imagining socially just alternative housing, transportation, and sewerage systems that go beyond estate and tract subdivision housing, public highways, and big pipes is also precluded by these narratives.

Conclusion

Conflicting and often vastly contrasting positions are the norm in attempts to resolve urban environmental and resource conflicts. Governments and policymakers typically see such conflicts as complex ecological phenomena that are confounded by uncertainty and/or complexity and the accommodation of citizen involvement (Carolan 2006). In this situation, the challenge for environmental policymakers is to somehow combine the recommendations put forth by actors and their respective scientific experts in order to find reasonable and balanced solutions (Konisky and Beierle 2001). We are skeptical of such measures. In this article we have argued that a wider consideration of the narratives of growth, science, and nature is essential to understand, rethink, and ultimately resolve environmental controversies.

The case of a conflict over two sewer pipe extensions reveals how politics and narratives underpin the choice of arguments about growth, science, and nature in environmental disputes. Actors construct specific narratives that include and exclude in order to justify and bolster their positions. A productivist narrative in favor of the Big Pipe accepts the large-scale accommodation of future growth in the GTA as absolutely necessary for the competitive status of both the area and province. It also presupposes that the environmental impact of the Big Pipe is minimal, temporary, and can be mitigated and monitored adequately by an internationally current technology. The natural environment is constructed as resilient and adaptable to development. They also contain claims that the Big Pipe transcends the potential risks related to the contamination of drinking water by underperforming/old septic tank systems.

A nature conservation narrative plays a prominent role in the debate surrounding the Big Pipe. It has gained considerable attention through the designation of large areas of conservation lands. Its proponents' use of federal, provincial, and public courts has in some way also served to delay and mitigate the effects of sewer and housing developments. It has also been highly successful in promoting its position in the media. The nature conservation narrative constructs the Big Pipe as promoting a perpetual cycle of growth and development, so-called pipe-driven sprawl, which will eventually pave over the entire region. It portrays the construction of the sewer extensions as harmful to local waterways and the ecologically sensitive Oak Ridges Moraine as a result of extensive water drainage during construction and leakage of sewage into the groundwater once in operation. It further draws on scientific studies that show that septic tanks have worked well in the past. It also claims that York Region has unfairly vilified septic tanks as a health scare tactic to justify further development, and points to events where large-scale/modern treatment facilities have failed and released raw sewage into waterways.

Productivist and nature conservation narratives play seemingly contradictory roles in the negotiation among growth, science, and nature in the GTA. However, the nature conservation narrative also constitutes an important feature in the GTA's quest for growth. In recent growth and green plans, nature is in fact positioned as a lubricant for growth, and conserved areas are portrayed as amenity spaces that attract people and growth and contribute to the competitiveness of the region. In the face of promoting the growth agenda, however, the frames of rulemaking and conflict resolution exempt infrastructure, such as sewers and roads, leaving the Big Pipe as a perceived necessary and inevitable element in the landscape.

The accommodation of a modern pipe-focused sewerage system thus constitutes one aspect of both a productivist and nature conservation narrative. And while some voices of the latter also advocate for so-called integrated water management where sewage water is treated locally, rainwater funneled into the local ground, and drinking water extracted in local aquifers (Ashley et al. 2007), they largely leave out alternative housing and transportation measures, as well as social justice concerns, in their avocations. These omissions leave them open to charges of NIMBYism and elitism. When the time comes to consider such alternatives more seriously, the narratives and politics surrounding the Big Pipe will provide important lessons.

Notes

1. All figures mentioned in this article are in Canadian dollars.
2. <http://www.york.ca>
3. The Oak Ridges Moraine Conservation Act was passed by Ontario's legislature in 2001, and provides for the authority to establish the Oak Ridges Moraine Conservation Plan, whose chief role is to protect both the ecological and hydrological integrity of the Oak Ridges Moraine. The Greenbelt Act was passed in 2005 and enabled the creation of a Greenbelt Plan to protect approximately 700,000 hectares of environmentally significant and agricultural land from further urban development, and sprawl. Specifically, the land encompassed by the Greenbelt also includes approximately 300,000 hectares from other provincial pieces of legislation such as the Oak Ridges Moraine Conservation Plan and the Niagara Escarpment Plan (Ministry of Municipal Affairs and Housing 2007).
4. In Canada, the attorney general has the power under the Criminal Code to either intervene in private prosecutions, take over the case from the private prosecutor, or allow the private prosecutor to proceed on his or her own. In addition, the attorney general can end the court proceedings outright (YDSS Servicing 2005b).

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