Intervention

Of floods and droughts: The uneven politics of stormwater in Los Angeles

Joshua J. Cousins

Ecology, Evolution, Ecosystems and Society Program and Department of Geography and Environmental Studies Program, Dartmouth College, 6017 Fairchild, Hanover, NH 03755, USA

ABSTRACT

Stormwater is a complex political and geographical problem. It is at once bound to land-use decisions, tied to geographical features such as lakes and rivers, and capable of flowing across different political boundaries and jurisdictions. In this paper, I empirically focus on how disparate understandings of stormwater are forged through different institutional arrangements and the ways multiple actors interact across scales of governance in Los Angeles. The results indicate four discourses influence decisions on urban stormwater management and are articulated through different forms of knowledge and power in environmental governance. The discourses diverge over contrasting perspectives on infrastructural interventions, the role of economic approaches, and the need for new institutions and rules. I suggest that disagreement may not deter integration and collaboration across different scales of governance, but without addressing conflict over key discursive claims about how stormwater governance should proceed, broadly accepted outcomes may remain elusive. With current trends in environmental governance moving towards hybrid forms that bring together groups that transcend traditional organizational structures, this paper reveals how more sustainable outcomes are being devised through current configurations of knowledge and power.

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Introduction

Driven by the federal Clean Water Act (CWA) and the California Porter-Cologne Water Quality Control Act, as well as the impacts of urbanization on hydrological systems, stormwater is emerging as a critical issue facing cities across California. Along with aging infrastructure and development pressures, the anticipated increase in extreme drought and storm events associated with climate change are likely to have a profound impact on the full range of water management activities for cities not only in California, but also across the globe (EPA., 2014; Hanak & Lund, 2011; IPCC., 2014). Scholars suggest that climate change will entail an entire reworking of urban water governance (Carlson, Barreteau, Kirshen, & Foltz, 2015; Milly et al., 2008; Pahl-Wostl, 2007). In southern California, water managers are addressing this challenge by developing new technologies and management strategies to capture, recycle, and utilize stormwater as a beneficial resource. Rather than relying on traditional approaches employing logics of efficiency to convey water away from cities as quickly as possible in a centralized manner, many cities are implementing stormwater infrastructure through distributed or decentralized strategies that manage stormwater runoff closer to its source through low impact development (LID) and green infrastructure (GI) (Brown, Farrelly, & Loorbach, 2013; Karvonen, 2011; Loperfido, Noe, Jarnagin, & Hogan, 2014).

These distributed and decentralized techniques present important tools for climate change adaptation planning and take on a variety of forms and names (Bell, 2015; Marlow, Moglia, Cook, & Beale, 2013; Tompkins et al., 2010). Sustainable urban water management (SUWM), sustainable urban drainage systems (SUDS), integrated water resources management (IWRM), water sensitive urban design (WSUD) and enhanced watershed management planning (EWMP) all connote aspirations for changes in urban water management. While many of the details of these approaches may differ, they share a generalizable goal to manage the urban water cycle to garner multiple benefits, rather than single purpose targets typical of traditional water management approaches (Marlow et al., 2013). Stormwater management, for example, is increasingly looking to achieve both conveyance and infiltration to resolve water quantity and quality problems through site design

strategies that replicate the functionality of the ecological and hydrological landscape of pre-urban conditions (EPA., 2001; Grimm et al., 2008; Pataki et al., 2011).

Many of these approaches rely on hybrid governance arrangements that seek to establish collaborations among state agencies, communities, and market actors (Agrawal & Lemos, 2007; Ferguson, Brown, & Deletic, 2013; Porse, 2013; van de Meene, Brown, & Farrelly, 2011). Hybrid governance is based on the rationale that no single agency or governmental entity retains the skills and capabilities to address the multiple and complex facets of environmental problems, such as stormwater (Lemos & Agrawal, 2006). While it is becoming apparent that actors and organizations in multiple domains are needed to resolve these important environmental dilemmas, controversy remains as a result of water's multiple roles and functions in society as a flow resource. Water is also fixed to land through water rights and geographical features, such as lakes and rivers, but it is also mobile, capable of flowing across political boundaries or being transferred between basins. As Bakker (2014: 471) notes of water, "it is simultaneously an economic input, an aesthetic reference, a religious symbol, a public service, a private good, a cornerstone of public health, and a biophysical necessity for humans and ecosystems alike." The norms associated with each of these roles and functions directly and indirectly influences how local officials and residents develop their stormwater management practices (Carlson et al., 2015; Greenaway, Allen, Feeney, & Heslop, 2005). Some institutional norms lead actors to approach stormwater through technocratic or managerial approaches to improve social, environmental, and economic sustainability, and yet other norms lead to grassroots or bottom-up approaches to improve resource governance. The result presents difficulties for establishing new governmental, institutional, and technological structures to re-work the value and flow of stormwater due to the multi-scalar and multi-actor character of stormwater politics.

Given the diversity of governance approaches and perspectives operating at multiple scales to manage stormwater, and the difficulties this presents for collective action, exactly how do competing perspectives and institutional relationships relate to one another and influence how stormwater governance proceeds? I address this question by exploring how different 'expert' (policy makers, scientists, engineers, NGO leaders, etc.) discourses of stormwater governance options interact and conflict across multiple actors and across multiple scales of governance. My analysis reveals four discursive alignments. They share a narrative of developing integrated approaches that connect all of the institutions and sectors concerned with the management of water through science and data-driven methods. Discursive claims diverge around contrasting opinions of infrastructural interventions, the role of economic approaches, and the need for new institutions and rules. I suggest that disagreement may not deter integration and collaboration, but without addressing contestation over key discursive claims about how stormwater governance should proceed, broadly accepted outcomes may remain elusive.

Discourse and environmental governance

This paper engages with recent calls within urban political ecology to engage with the discursive practices and knowledge systems that shape urban ecologies, subjects, and practices (Gabriel, 2014; Grove, 2009; Lawhon, Ernstson, & Silver, 2013). Drawing on Hajer (1995, p. 44), I consider discourse "a specific ensemble of ideas, concepts and categorizations that are produced, reproduced and transformed in a particular set of practices and through which meaning is given to physical and social realities." A key to this understanding is that multiple discourses exist, each competing to leverage their authority over the other in determining environmental outcomes. Discourses, however, are not merely statements; they enable and constrain what can emerge from a field of possibilities (Barad, 2003; Müller, 2008). It is when particular discourses are adopted and advocated for, especially by powerful interests and political institutions, that some discourses emerge as legitimate possibilities while others are rendered unsuitable (McDonald, 2013; Robbins, 2006).

Within political geography and political ecology, a focus on discourse underscores the importance of language and practice in shaping social and material outcomes (Müller, 2008). Studies indicate how ecological understandings are transformed through institutional arrangements (Sneddon & Fox, 2006) and how new networks arise through the scaling and rescaling of environmental governance (Bulkeley, 2005). Scholars have also demonstrated how the formation of 'discourse coalitions' link disparate political actors around shared narratives or framings to foster changes in environmental governance and policy making at a variety of scales (Bulkeley, 2000; Hajer, 1995). Others, however, warn that these discursive alliances often reflect idiosyncratic perspectives that reveal deeper divisions between power and knowledge (Robbins, 2006). Yet others contend that discursive disagreement does not deter collaboration, but it does make synergistic environments potentially more difficult to come by (Lansing, 2013). Central to these debates are a focus on the ways idiosyncratic experiences are expressed in relation to one's structural position and how discourse shapes development practices.

While structural position may help predict ones discursive stance in policy debates, discourse alliances are often constructed in contradictory systems of power and knowledge that form and reproduce identity (Brannstrom, 2011; Robbins, 2006). To describe this contradictory phenomena of collaboration without consensus, scholars often point towards the creation and use of boundary objects to bridge diverse social worlds by enabling dialogue across groups around a shared, but flexible, item or concept, such as watersheds or water quality (Cohen & Bakker, 2013; Freitag, 2014; Star & Griesemer, 1989). While decision-making and collaboration is often messy and filled with uncertainty (Kingdon, 1984), it is also an arena where the evolving relationship between power and knowledge reworks the subjective relationships between people and the material world (Lemos & Agrawal, 2006; Agrawal, 2005).

Scholars focusing on urban water governance have drawn on these debates to highlight the power relations embedded among different discourses and how that influences the development of different responses to environmental challenges (Bakker, 2013; Kaika, 2003; Loftus, 2014). Ranganathan (2015), for example, demonstrates how flood risk is rooted not only in a legacy of colonial planning discourse directed at 'encroachers', but also materially through the assemblage of storm drains in Bangalore. Cousins (2016) also, shows how stormwater governance is shaped by technopolitical discourses centered on efforts to control the volume of urban stormwater runoff. Finewood (2016), similarly captures how alternative forms of urban greening, such as green infrastructure, are maintained by a grey epistemology, which impedes democratic processes through its focus on technical and abiotic properties of stormwater conveyance. Others, such as Karvonen (2011), have also revealed how stormwater's multifaceted sociotechnical nature defies simple descriptions and categorizations, complicating its management.