

Report as of FY2006 for 2006TX227B: "A Socio-Technical Case Study of Sustainable Stormwater Management in Austin, Texas"

Publications

Project 2006TX227B has resulted in no reported publications as of FY2006.

Report Follows

THE CULTURAL APPROPRIATION OF WATER QUALITY IN AUSTIN, TEXAS Politics, Infrastructure, and Urban Nature

Andrew Karvonen, The University of Texas at Austin
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In this paper, I examine the historic and current meaning of water to different social groups in Austin, Texas. Beginning in the early 1970s, water quality became a central concern in the divisive political debate over the benefits and drawbacks of urban growth. Environmental and community activists used stormwater management as a proxy for the declining health of the ecosystem and by extension, the decline of Austin's community character. Development and property owners were concerned that environmental regulations to protect water quality would infringe on their development rights. The debate came to a head with the passage of the Save Our Springs Ordinance in 1992, a particularly important piece of municipal legislation that imposed strict impervious cover limits over environmentally sensitive areas of the region, further fueling the debate over urban growth in Austin.

This urban case study is based on information collected from in-depth interviews with key stakeholders (technical experts, developers, politicians, environmental activists, journalists, and concerned citizens) as well as historical documents on the development of stormwater practices and the environmental culture of Austin. I employ notions from the field of Urban Political Ecology to highlight the political nature of infrastructure development and the tensions that exist between urban expansion and ecosystem function. The study emphasizes the intertwined material and social conditions that form the "water culture" of Austin and suggests the need for a new understanding of the relationship of water flows to urban residents.

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Introduction: The Emergence of Water Quality as an Urban Issue

Since the nineteenth century, municipal governments have been charged with planning, constructing and maintaining centralized sewerage systems for stormwater and sanitary waste to support transportation networks, reduce flooding incidents, and protect the public health.¹ To a great extent, municipal engineers and infrastructure managers have followed a systematic logic of “expand-and-upgrade” to develop extensive physical networks based on scientific principles as well as technical and economic feasibility.² In the 1970s, this logic was expanded as the U.S. government began to focus on water quality aspects of stormwater in addition to water quantity. A number of significant federal regulations prompted state and local authorities to reduce the water quality impacts of urban drainage.³ The focus on water quality resulted in the proliferation of technical approaches—notably detention and retention ponds—on both public and private properties to slow down stormwater flows and remove contaminants before release to downstream waterbodies.

Today, protection of water quality is a common practice in many U.S. cities. However, a few communities exhibit a heightened political dialogue on stormwater issues due to issues of threatened or endangered species, the failure of antiquated network components, perceived or real threats to the waterborne tourist industry or public health, and declining water quality. In places such as Austin, Denver, Portland, Seattle, Washington, D.C., and Philadelphia, urban hydrology is not merely an issue for municipal engineers to tackle but serves as a lightning rod for political controversy, influencing election outcomes, changing land development patterns, and even reshaping the hydrologic functioning of urban environments. These public dialogues on stormwater management have resulted in the emergence of new approaches such as Low Impact Development, Better Site Design, and ecological engineering based on demand-side management of urban waterflows. Developed by a wide range of technical and non-technical stakeholders including civil engineers, landscape architects, environmental activists, and municipal program managers, these approaches challenge the expand-and-upgrade logic of conventional stormwater management in the pursuit of improved environmental quality and aesthetics, as well as reduced infrastructure costs.⁴

In this paper, I examine stormwater issues in Austin, Texas, a city where highly contentious political debates have revolved around water quality since the 1970s. Beyond the municipality’s reputation as a progressive manager of stormwater flows (see commendations from the U.S. Environmental Protection Agency and the Natural Resources Defense Council⁵), the most important issues of water quality have involved public dialogues over future growth of the metropolitan region. These debates demonstrate the intertwining of nature, society, and technology in modern societies and the challenges that communities face in appropriating new conceptions of environmental quality.

Interpreting Urban Water Flows

This study is founded in the new field of Urban Political Ecology (UPE) where scholars from a wide range of disciplines have come together to focus on the complex

¹ Tarr and Konvitz 1987

² Moss 2001

³ Notable stormwater regulations include the Water Pollution Control Act of 1972, the Clean Water Act of 1977, the Water Quality Act of 1987, and the National Pollutant Discharge Elimination System (NPDES) regulations of the 1990s.

⁴ For example, Schueler 2000, France 2002, and Hough 2004.

⁵ See U.S. EPA 2006 and NRDC 1999.

relationships between the material and social aspects of the built environment. The discourse emerged in the 1990s from political ecology as well as various forms of critical ecology studies (eco-Marxism, eco-feminism, eco-anarchism), critical geography, ecological planning, science and technology studies, and urban sustainability.⁶ UPE scholars interpret the built environment in a variety of different ways but a common theme is to reject modern dualisms of nature/society, urban/rural, and natural/artificial. Keil notes that “the material and symbolic, the natural and cultural, the pristine and the urban are not dual and separate realities but rather intertwined and inseparable aspects of the world we inhabit.”⁷ These hybrids or collectives are what Donna Haraway refers to as “cyborgs” and Bruno Latour calls “quasi-objects” to reflect both their natural and social attributes.⁸

From a UPE perspective, the urban landscape can be understood as a hybrid complex of overlapping material and social processes. The process of urbanization is not understood as a progression from natural environments (the natural pole) to built environments (the social pole) but is a process in which complex political relationships are formed between the social and the natural.⁹ With respect to stormwater management, the UPE approach opens the discourse to many social actors and takes into account the importance of material aspects of the city.¹⁰ Politics thus transcends its social roots and becomes embedded in its material context.

Water is increasingly a central issue in the constitution of urban spatial relations and urban political regimes.¹¹ Urban water flows are multivalent and cannot be reduced to technical or cultural explanations. As Geographer Matthew Gandy argues, “Water plays an important role in reconstructing the urban space with its closely choreographed intersection between technology, space, and society.”¹² Tracing the social and material relationships embodied in stormwater networks allows for a more nuanced understanding of the relationships between nature and culture, opening the political discussion to reflect on how communities want to live within their surroundings. Such a perspective suggests that the control and modification of urban water flows is not merely a technical and economic issue but is rife with political meaning, like any social process.

Austin as Urban Growth Machine

The capital city of Austin is located in Central Texas, within the metropolitan triangle of Dallas/Fort Worth, San Antonio, and Houston (**Figure 1**). It is the fourth largest city in the state with a population of 650,000 in the city limits and another 600,000 in the larger metropolitan area. Similar to other cities, the location of Austin was chosen for its proximity to water resources. An 1839 map of the region (**Figure 2**) presents Austin as a 640-acre settlement on the banks of the Colorado River where “the new city is shown nestling, as it were, between the sheltering arms of the two creeks, Shoal and Waller.”¹³

⁶ Keil 2003

⁷ Ibid., p. 728

⁸ Swyngedouw 2006

⁹ Whatmore 1999, Keil 2003

¹⁰ See Latour 1998

¹¹ Examples of UPE literature on urban waterflows include Desfor and Keil 2004, Gandy 2003, Swyngedouw 2004, and Kaika 2005.

¹² Gandy 2004, p. 366

¹³ Hart 1974, p. 24

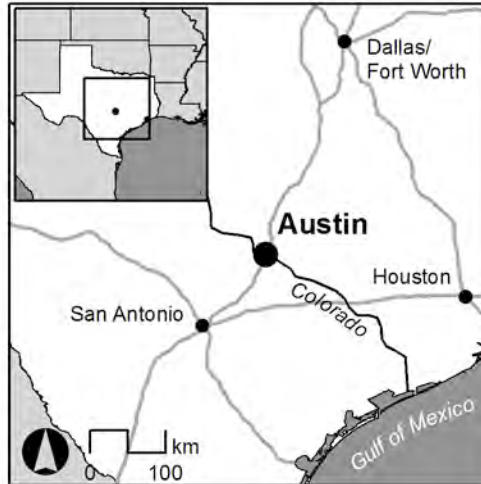


Figure 1 Location map of Austin, Texas

Despite its proximity to water resources, Austin grew slowly because it lacked a manufacturing sector and instead, relied on the slow-growing industries of state government and higher education.¹⁴ A recurring problem for residents of the capital city was how to harness the Colorado River with minimal public funds. Austin floundered in the late nineteenth and early twentieth century with an inadequate water supply, unreliable electricity service, and periodic floods that devastated the community. The municipal government was successful in building a dam on the Colorado River in 1893 to generate electricity and provide a consistent source of water but the dam collapsed in 1900, propelling the city into fiscal crisis.¹⁵ Between 1900 and 1913, Austin residents suffered through 17 floods that claimed 61 lives while causing \$61.4 million in damage.¹⁶

It wasn't until the 1930s that Austin finally overcame its battle with the Colorado River, thanks in large part to financial assistance from the U.S. government. The federal government's New Deal programs provided vital infrastructure development projects to spur commerce and development in many U.S. cities.¹⁷ Austin was very fortunate, receiving more funding for municipal construction projects from the Public Works Administration than any other Texas city in the 1930s.¹⁸ U.S. Senator Lyndon Johnson was instrumental in bringing New Deal projects to Central Texas, including several dams on the Colorado River that created a chain of waterbodies known as the Highland Lakes. The dam projects created jobs and provided city residents with much needed water and electricity services as well as flood control. The harnessing of the river thus became central to the future growth of Austin.¹⁹

With stable municipal services and a burgeoning recreation economy from the Highland Lakes, the Austin population surged. From 1940 to 2000, the Austin population grew at an average rate of 40 percent per decade.²⁰ Much of this growth can be attributed to the rapid expansion of government and education, but after World War II, Austin's Chamber

¹⁴ Orum 1987

¹⁵ Humphrey 2001

¹⁶ Orum 1987

¹⁷ Tarr and Konvitz 1987

¹⁸ Humphrey 2001

¹⁹ Banks and Babcock 1988, Pipkin 1995

²⁰ Humphrey 2001



Figure 2 An 1839 map of Austin nestled between Shoal and Waller Creeks

of Commerce and the municipal government laid the groundwork for a new economy based on the high-tech industry. A consortium of university administrators, municipal officials, and local entrepreneurs recognized an opportunity to transform the city into a regional center for the growing computer industry. After several decades of planning, the consortium finally succeeded in wooing IBM to Austin in 1967. Other companies followed, including Texas Instruments in 1969, Motorola in 1974, and in the 1980s, Microelectronics & Computer Technology Corporation and Sematech.²¹ Whereas the growth of Austin before the 1950s was fueled by significant Federal funding, the economy after World War II was increasingly dependent on the private marketplace for urban expansion, specifically high tech companies.²²

The arrival of the high tech industry transformed Austin into an 'urban growth machine'²³ that was desirable to landholders and developers but was unwelcome by many Austin residents who perceived the influx of people and the expansion of the city as a detriment to their quality of life. The roots of Austin's liberal population are based on the

²¹ Humphrey 2001

²² Austin is frequently referred to as the "Silicon Hills," a nod to Silicon Valley in Northern California.

²³ See Jonas and Wilson 1999

employment opportunities of the state government and university that created a community of highly educated middle class residents. The University of Texas fueled the populist sentiment of Austinites as early as the 1940s when university professors and students railed against the Austin establishment on contentious social issues, notably segregation.

In the 1970s, neighborhood groups became a prominent fixture in municipal politics, focusing on urban growth and expansion issues which threatened the perceived character of Austin.²⁴ Neighborhood activists fought battles over new apartment complexes and traffic congestion to protect the integrity of their neighborhoods from new development. By 1983, there were more than 150 neighborhood groups active in Austin. Among the populist groups, environmentalists became a powerful force in protecting streams, lakes, watersheds, and undeveloped areas from environmental degradation.²⁵ To this day, most city elections can be characterized as contests between pro-growth candidates and pro-environment/community candidates.

The Importance of Urban Water in Austin

The water features of Austin have long been embraced by its citizens as a defining characteristic of the city. The City Plans of 1928, 1961, and 1980 consistently called for protection of the urban creeks and waterways through integration of greenbelts or linear parks to protect these natural resources.²⁶ In 1976, Austin's Bicentennial Gift to the Nation created the Creeks Project, designating all urban creeks as multimodal recreation and transportation spaces.²⁷ The focal point of the "water culture" of Austin is Barton Springs Pool, a spring-fed public pool in the Barton Creek watershed in southwest Austin (**Figure 3**). Since the late 1800s, the springs have served as a public meeting place for recreation and community building. The City of Austin acquired the springs in 1918 and built a dam just below the springs to create Barton Springs Pool, solidifying the springs as the city's communal meeting place.

The cultural importance of Barton Springs to Austin residents cannot be understated. The springs are often referred to as the "soul of Austin" and reflect the egalitarian values of the community. As one longtime swimmer of Barton Springs notes, the springs have "a social leveling influence that is unique. When you strip down to a bathing suit, everyone is equal."²⁸ Thus, the springs serve as a totem for the Austin community, simultaneously creating a connection between Austin residents and the landscape while also promoting a sense of community within that space.²⁹ Here, the social, natural and technical combine to create a distinct local identity. Former Texas agriculture commissioner and nationally-known political commentator Jim Hightower observed that:

The glory of Barton Springs—and similar jewels around the world—is not simply its passive pleasures and the pureness of its existence but also its power to pool individuals into a genuine community of activist citizens....the Springs refresh, but they also empower those who love them.³⁰

²⁴ Orum 1987

²⁵ Humphrey 2001

²⁶ City of Austin 1928, 1961, 1980

²⁷ Horizons Committee 1976

²⁸ Quoted in Pipkin and Frech 1993, p. 69

²⁹ Swearingen 1997

³⁰ Quoted in Pipkin and Frech 1993, p. 105



Figure 3 Barton Springs Pool, often referred to as the “soul of Austin”

The springs embody more than cultural and political significance, they also serve as a gauge for water quality conditions of the region. The springs are the outlet of the Barton Springs section of the Edwards Aquifer, a karst aquifer that is highly porous and thus, is susceptible to contamination from land development. Unlike sand aquifers that tend to slow down and filter stormwater, karst aquifers tend to transport water and contaminants quickly. Scientists began examining the complex conditions of the Edwards Aquifer in the 1960s and characterizing the mechanics of karst aquifer hydraulics with respect to urbanization and increasing levels of impervious cover.³¹ These studies showed that the aquifer’s water quality was highly susceptible to development processes.

The municipal government recognized the environmental sensitivity of the aquifer and passed ordinances to protect water quality. For instance, the 1980 City Plan called for limited development in the Barton Creek Watershed (City of Austin 1980). In 1985, the City of Austin completed a 7.9 mile greenbelt in the watershed encompassing 809 acres of land to serve as a recreation destination for hikers, mountain bikers, rock climbers, and swimmers as well as protect the water quality of Barton Creek, Barton Springs, and the underlying aquifer (**Figure 4**). The Barton Creek Watershed is one of the least developed in the region—79% of the land area is undeveloped—and consequently has the lowest ecological impairment.³²

³¹ For example, see Woodruff and Slade 1986.

³² City of Austin 2005



Figure 4 Barton Creek Greenbelt with Barton Springs Pool at the upper right

Beyond its hydrologic attributes, Barton Springs has biological significance to the regional ecosystem. Of particular importance to the Barton Springs story was the 1993 discovery of an indigenous species, the Barton Springs Salamander (*Eurycea sosorum*), which resides in Barton Springs Pool. In 1997, the U.S. Fish and Wildlife Service added the salamander to its list of endangered and threatened wildlife to receive protection under the Endangered Species Act.³³ As such, the role of Barton Springs as an indicator of the ecological health of the aquifer was further solidified.

Political Contests over Urban Water Flows, 1970s to present

Public battles over water quality in Austin erupted in the 1970s when real estate developers chose the Barton Springs zone of the Edwards Aquifer as a prime location for new development. In addition to its unique hydrologic characteristics, the region contains some of the most picturesque landscape in close proximity to the city. The struggle between environmental protection and urban growth continued to escalate, with the City passing a succession of comprehensive water quality ordinances to protect the aquifer and urban waterways.³⁴ These ordinances were significant because they introduced stormwater management and water quality protection as a municipal mandate. Between 1980 and 1992, the city adopted eight water quality ordinances along with several amendments that addressed impervious cover, density, transfer of impervious cover or development rights, stormwater treatment and detention requirements, construction site management, and stream setbacks or buffer zones.³⁵ These regulations formalized the city's commitment to protecting the region's natural

³³ Lieberknecht 2000

³⁴ City of Austin 2006a

³⁵ Ibid.

resources using “Best Management Practices” and were an attempt to direct urban growth off of the sensitive aquifer. Unfortunately, they only achieved mixed success because the City offered exemptions to many developments over the aquifer. Furthermore, State law allowed developers to create Municipal Utility Districts that superceded local regulations and allowed for development over the aquifer.³⁶

Frustrated over the City’s inability to protect the aquifer, politically active Austinites rallied for further water quality regulations to curtail urban development. The political conflict over water quality and urban growth came to a head on June 7, 1990 at an infamous all-night meeting of the City Council where over 600 citizens spoke about the threats of a new 4,000-acre development being proposed over the aquifer. The momentum from that meeting propelled a number of local environmental groups to form the Save Our Springs Coalition (later renamed the Save Our Springs Alliance and frequently referred to as SOS) to focus specifically on protection of Barton Springs and the Barton Springs segment of the Edwards Aquifer. The coalition wrote its own water quality ordinance and in 1992, after contentious political debates, the ordinance was passed as a citizen referendum by a two-to-one margin.

The Save Our Springs Ordinance addressed land use development over 112 square miles in sensitive portions of the Barton Springs section of the Edwards Aquifer (some inside the city limits and some in the 2-mile and 5-mile Extra Territorial Jurisdictions) and further codified the community’s commitment to water quality. The ordinance established strict impervious cover limits of 15 to 25 percent depending on a property’s location over the aquifer and also included a non-degradation policy and construction setbacks. By comparison, typical urban development consists of 40 to 95% impervious cover. Environmental activist Helen Bellew states, “With the SOS vote, Austin made it clear that Barton Springs is where we draw the line.”³⁷ In subsequent years, the development community has waged numerous court battles and influenced the State legislature to grandfather existing site plans and weaken the ordinance to some extent but it continues to be a formidable piece of municipal legislation.³⁸

The story of Barton Springs and the S.O.S. Ordinance is founded on cultural politics and to some extent, mirrors the environmental debates in the U.S. in the late nineteenth and early twentieth centuries over preservation versus conservation of undeveloped lands. Citizens are portrayed as defenders of the environment and the desired quality of life that natural areas provide. Developers are described as outsiders who represent capitalist values that run counter to both the Austin culture of environmental quality and middle class lifestyle.³⁹ Moreover, Barton Springs serves as a symbol of the larger meaning of Austin as a unique place, one that is opposed to the ideology of unchecked land development patterns.⁴⁰ The debate over the springs and the health of the aquifer is at heart a public deliberation over how the city will grow in the future, the very stuff of urban politics.

³⁶ See Staff 1999. It is important to recognize the municipality’s dual role as promoter of economic development and protector of the natural environment. The water quality debates in Austin often center around the City’s ability or inability to achieve both of these missions simultaneously.

³⁷ Quoted in Pipkin and Frech 1993, p. 86

³⁸ Shea 2006

³⁹ Since 2000, the unofficial motto of Austin has been “Keep Austin Weird,” reflecting the desire by many Austin residents to maintain the characteristics that make the city a unique place. See Kanter 2004 for the origin of the motto.

⁴⁰ Swearingen 1997

Framing Nature as Non-Urban

In the political debate over stormwater management and protection of the aquifer and springs, nature is frequently framed as an entity outside of the social world. The landscape is considered as a place to protect from human influence and preserve in its sacred state or as a platform on which to expand the city and accommodate the growing population. Bill Bunch, executive director of the S.O.S. Alliance states succinctly: "You can't both pave and save the watershed."⁴¹ Neither perspective embraces nature as integral and inseparable from the community and instead, voters and politicians are restricted to two options: protect or destroy (**Figure 5**).

By ignoring the hybridity of the springs and the aquifer, urban growth is subjected to the ebb and tide of election cycles and by extension, the power of activist citizen organizations to remain a vigilant and influential political force to counter the insistent activities of developers to expand the urban boundaries via development. Since the S.O.S. Ordinance was passed in 1992, the S.O.S. Alliance and other organizations have struggled to maintain their momentum.⁴² Of particular importance has been the splintering of the S.O.S. Alliance in the mid- to late-1990s over the future direction of



Figure 5 A 2006 political advertisement from the Travis County Parks Political Action Committee

⁴¹ Alexander 2006

⁴² Clark-Madison 2002

environmental activism. Many of the major players in the organization left to found a new organization, Liveable City, that addresses a wider palette of community and environmental issues including affordable housing, transportation, regional planning, and economic development.⁴³ In short, these defectors found the uncompromising political approach and singular focus of the S.O.S. Alliance to be unworkable, and instead adopted new, more conciliatory notions of sustainable development that tie together multiple urban issues.⁴⁴

Another problem with the dualist nature of the stormwater debates in Austin is that there is little opportunity for design intervention by municipal engineers and property developers who are attempting to mitigate water quality impacts due to urbanization. Emerging drainage approaches such as Low Impact Development and Better Site Design are not part of the water quality conversation in Austin because any manipulation of the environment from land development is portrayed as negative. Instead, the work of municipal engineers is restricted to characterizing the flow conditions of the aquifer and monitoring water quality conditions as opposed to being actively involved in design interventions that could work towards mitigating the environmental impacts of urban development. To be sure, stormwater experts have been employed on both sides of the political debate to argue about the technical aspects of impervious cover, the effectiveness of particular Best Management Practices, and so on. But scientific and technical knowledge tends to be wielded as a political weapon to forward the partisan agendas of the development community or the environmental community rather than develop solutions to the seemingly intractable contradiction between environmental quality and urban growth.

The limited geographic focus of water politics in Austin has also been problematic. Barton Springs has been framed as *the* indicator of water quality and urban growth of the region while the rest of the city has been left out of the debate. In the late 1990s, the City Council adopted the Smart Growth Initiative as a partial solution to the impasse between environmentalists and developers over urban development. The intent of the initiative was for the municipality to use incentives to simultaneously protect the land from development over the sensitive aquifer in the southwest portion of the city while spurring development in desirable locations of Austin, notably downtown and East Austin.⁴⁵ The explicit message of the initiative was that urban development is desirable as long as it is done in the proper location. The initiative included a map designating a Water Quality Protection Zone (in West Austin) and a Desired Development Zone (for underdeveloped lands in downtown and East Austin) (**Figure 6**). The approach was characterized as a politically astute way to resolve a political dispute using geographic delineation and reflects the win-win approach of sustainability advocates by combining environmental protection with economic development to reduce sprawl, protect environmental quality, and develop a vibrant urban core.⁴⁶

While the Smart Growth Initiative was received positively by much of the Austin community, it generated fierce criticism from East Austin residents whose neighborhoods were targeted for increased development. Since the early twentieth century, East Austin has been the home to the majority of African American and Latino residents who were effectively removed from Austin proper via formal and informal

⁴³ Rather 2006

⁴⁴ Price 2007

⁴⁵ City of Austin 2006b

⁴⁶ Ibid.

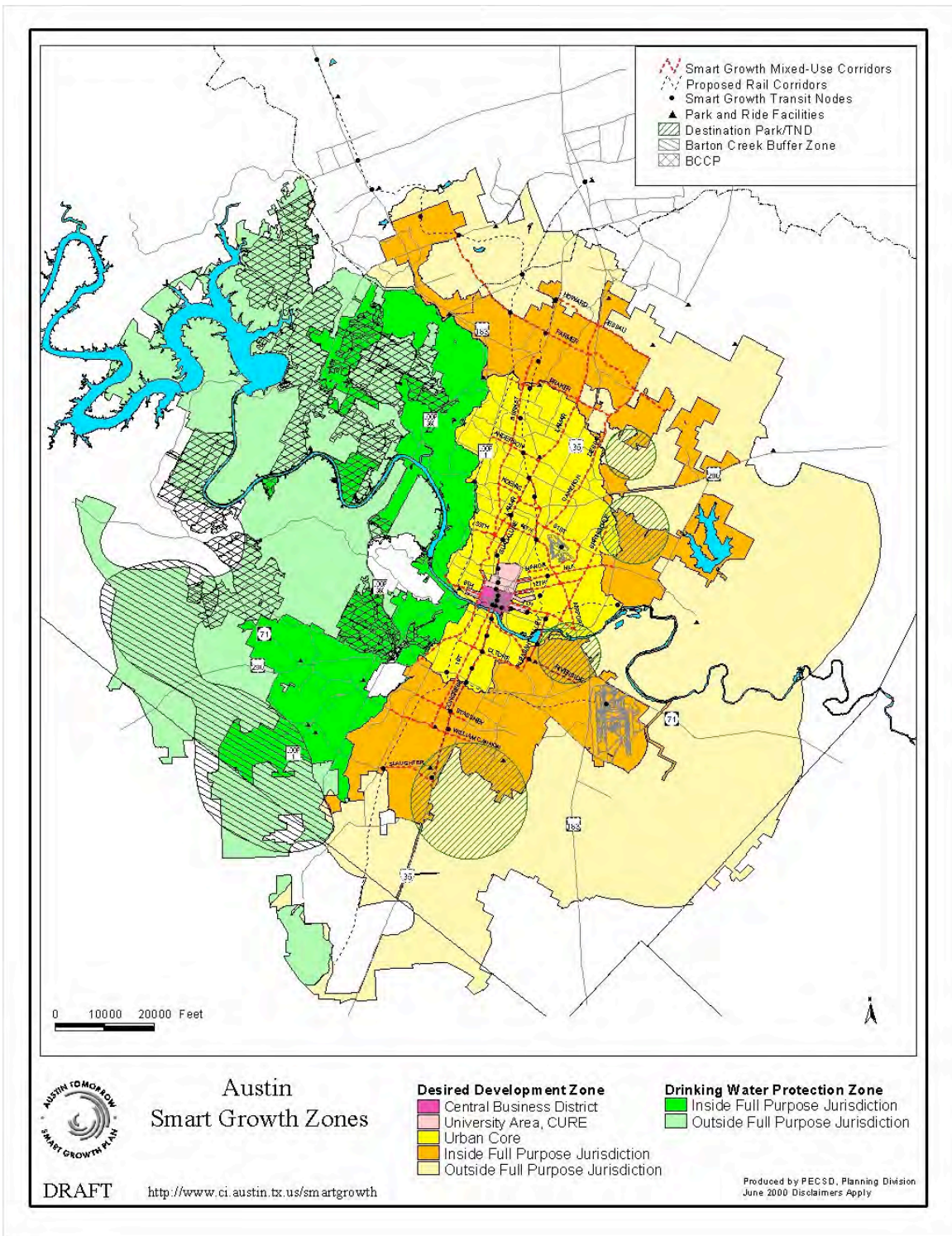


Figure 6 The Smart Growth Initiative proposed a Water Quality Protection Zone and a Desired Development Zone

mechanisms.⁴⁷ Fears of gentrification and rising property values as a result of the Smart Growth Initiative served to increase the division between East Austin residents and the rest of Austin.⁴⁸ While the Smart Growth Initiative may have been effective at partially diffusing the tension between environmental quality and economic development, it came at the expense of social equity.⁴⁹ The splinterization of the community has not only been within environmental groups but also in other community groups, particularly those interested in inequitable distribution of wealth, gentrification, and race relations.

The singular focus on Barton Springs has also had ramifications for other waterways in the city. Despite the numerous City documents that call for the protection of Austin's streams, the streams are all but forgotten in the urban landscape. Stormwater flows have eroded the stream banks and water quality has suffered (see **Figure 7**).⁵⁰ In short, the emphasis on the water quality of Barton Springs has not transferred over to these urban waterways. The streams of East Austin are perhaps the worst in terms of biological health and hydrological function, many having been channelized in previous decades by the Army Corps of Engineers to reduce flooding while ignoring biological and aesthetic concerns.

Concluding Remarks: Potential for Hybrid Nature in Austin

The debate over Barton Springs has shaped the political arena by creating a forum where a diverse group of residents have discussed how the region should grow. Austin's attempts to deal with the competing demands of environmental protection and economic growth take place in land development politics and a struggle to maintain a sustainable form of urban growth. As such, the sustainability of places is related to the spatial patterns in which they develop.⁵¹ However, the discourse has been binary and uneven. In the Barton Springs segment of the Edwards Aquifer, the politics have been reduced to a choice of "paving or saving" the fragile water resources. Opportunities for design intervention and finding ways to integrate new development with the sensitive hydrologic conditions have been marginal to nonexistent. Instead, unbuilt land has been portrayed as either too fragile for any form of development (thus the highly restrictive development regulations) or as an opportunity for developers and property owners.

An alternative to the modern dualisms of city vs. nature, natural vs. artificial, and social vs. material would demonstrate that human relationships with nature are ineluctable and inherently subversive of the nature-society dualism.⁵² Such a perspective has the potential to broaden the political choices beyond preservation or conservation by focusing on how nature is transformed by actors and the intertwined social and ecological consequences. Perhaps a first step for community members in Austin is to recognize that the springs and the aquifer are not pristine natural entities but are constructed as much as the urban areas of the city. The politics of water quality and urban growth might then transcend the contest of political wills between environmental activists and developers to become an integral part of the urban fabric, just like Barton Springs. Gandy offers the following prescription for a new conception of urban politics:

⁴⁷ For example, a formal mechanism to locate minorities in East Austin is the 1928 City Plan that restricted city services such as water, electricity, sewer, and garbage collection for African Americans to East Austin.

⁴⁸ Clark-Madison 1999

⁴⁹ See Campbell 1996 for a discussion of the conflicts between economic development, environmental protection, and social equity.

⁵⁰ See Tom Hegemeir's 1997 technical assessments of Austin's creeks for the City of Austin Drainage Utility.

⁵¹ Throgmorton 2003

⁵² Castree and Braun 1998

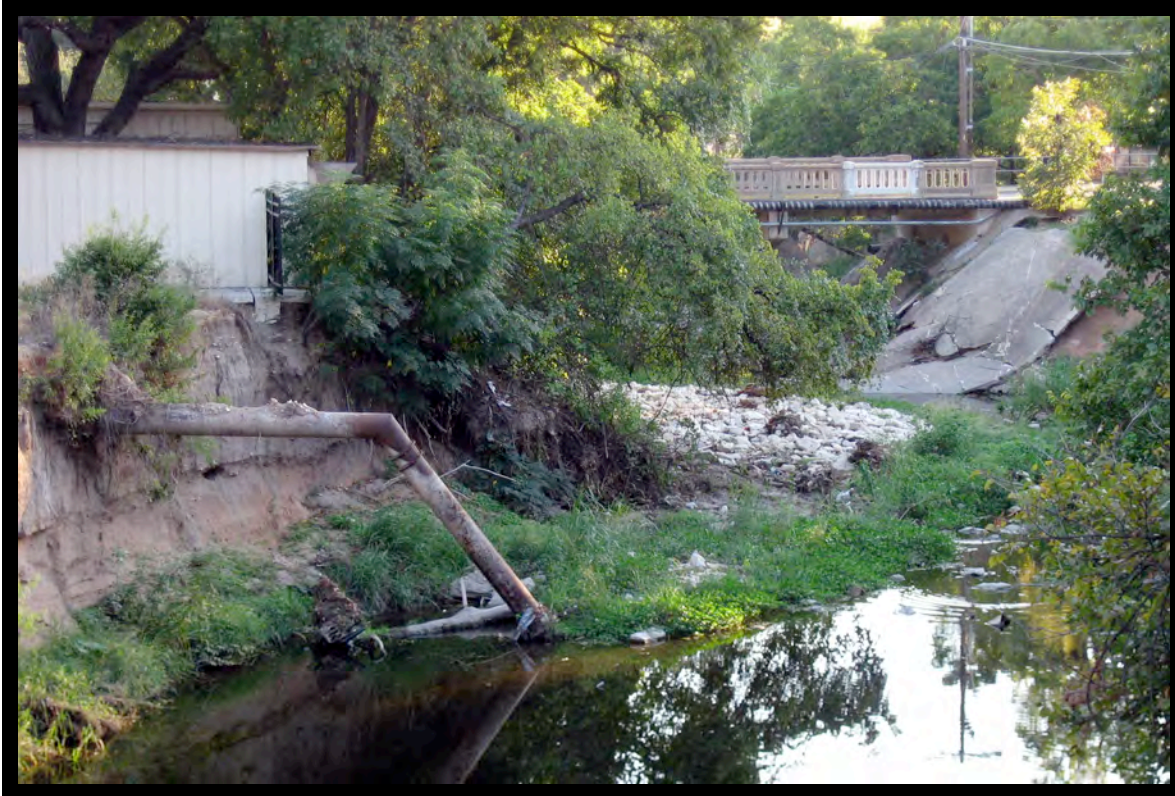


Figure 7 Waller Creek in Downtown Austin

The urban ecology of the contemporary city remains in a state of flux and awaits a new kind of environmental politics that can respond to the co-evolutionary dynamics of social and bio-physical systems without resorting to the reactionary discourses of the past. By moving away from the idea of the city as the antithesis of an imagined bucolic ideal we can begin to explore the production of urban space as a synthesis between nature and culture in which long-standing ideological antinomies lose their analytical utility and political resonance.⁵³

A first step in creating a new form of politics based on a “material constructivist” form of politics is to reimagine infrastructure networks such as stormwater systems to be hybrid and partial and focus on how to best structure these socio-natural systems to accommodate both humans and non-humans.⁵⁴ This lets us consider infrastructure networks or water flows as “boundary objects” between citizens and their surroundings.⁵⁵ Such a conception when combined with a strongly democratic form of urban decision-making can potentially return the city to its citizens.⁵⁶ Engagement in practices such as urban creek restoration, trail building, and more environmentally benign forms of landscaping are potential pathways to further pursue water quality in Austin culture.

In 2004, the City opened a new City Hall building with a design that reflects the geology of the Edwards Aquifer. The importance of the city’s environmental setting is literally embedded in municipal politics. However, battles over land development in the sensitive

⁵³ Gandy 2006, p. 72-3

⁵⁴ Demeritt 1998

⁵⁵ Star and Griesemer 1989

⁵⁶ Swyngedouw 2006

portions of the aquifer will likely continue as the region expands. Perhaps future community leaders will build upon the history of Austin and expand water politics to include both social and natural elements. Such an approach might prove to be a lasting way for the city's residents to maintain the environmental quality of the region while simultaneously accommodating a growing population.

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