

**POLICY DROUGHT: WATER RESOURCE MANAGEMENT, URBAN
GROWTH, AND TECHNOLOGICAL SOLUTIONS IN POST-WORLD WAR II
ATLANTA**

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The Academic Faculty

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POLICY DROUGHT: WATER RESOURCE MANAGEMENT, URBAN GROWTH,
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For my girls, Lee and Simone

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LIST OF ABBREVIATIONS

AWW – Atlanta Water Works

ARC – Atlanta Regional Commission

ARMPC – Atlanta Region Metropolitan Planning Commission

BPC – Bureau of Pollution Control

c.f.s. – cubic feet per second

Corps – Army Corps of Engineers

DNR – Georgia Department of Natural Resources

EPA – Environmental Protection Agency

EPD – Georgia Environmental Protection Division

gpcpd – gallons per capita per day

LPC – Local Planning Commission

MAWRS – Metropolitan Atlanta Water Resources Management Study

MGD – millions of gallons per day

MPC – Metropolitan Planning Commission

SWQCB – Georgia State Water Quality Control Board

SUMMARY

By the dawn of the twenty-first century the City of Atlanta was facing a crisis of water quantity and water quality. It was involved in two-decades worth of litigation with the states of Alabama and Florida over access to surface waters that originate within Georgia, a legal dispute that threatened to severely reduce the city's ability to provide water to its growing metropolitan population. In addition, city officials were in the beginning stages of a four-billion dollar, court-ordered program of improvements to its wastewater infrastructure that was intended to reduce the amount of pollution that spewed into its local rivers and streams.

This dissertation examines the origins of these water-related problems by exploring the challenges that Atlanta's public officials, engineers, and activists faced in planning and implementing an effective environmental policy, with particular emphasis placed on the era of post-World War II metropolitan development. Specifically, it focuses on the city's historical efforts to achieve the comprehensive management of the area's water resources, the technological systems adopted and solutions proposed, and the political and social milieu that facilitated or hampered these endeavors.

Comprehensive water resources management was a neglected and delayed policy approach that was undertaken in the City of Atlanta only after overt threats of federal intervention. This study argues that although the area's mid-century regional planners advocated for intergovernmental cooperation in order to manage Atlanta's limited water supplies, their recommendations were undermined by fragmented local governance, timid political leadership, and public indifference. It further suggests that Atlanta's water supply managers, through increases in the scale and scope of their operations and a

reluctance to increase customer rates, facilitated and encouraged greater water consumption, which, in turn, placed intense burdens on both the natural hydraulic cycle and the city's wastewater facilities. Lastly, it argues the citizen activists as well as state and federal regulators have utilized the federal court system as a blunt planning instrument when Atlanta's leaders displayed their seeming incapacity to handle the environmental strains of uncoordinated metropolitan development.

INTRODUCTION

With respect to the founding of Atlanta, Georgia, two pieces of information may be regarded as incontrovertible facts. The first is that those involved in choosing the southern “Terminus” of the Western and Atlantic (W&A) railroad in 1837 could scarcely have envisioned that the site would eventually become the core of the largest metropolitan region in the southeastern United States. That few believed the rustic location would evolve into anything other than a small “grain depot” is made clear by the 1841 actions of John Thrasher, the contractor assigned the task of grading the terrain upon which the W&A and the Monroe Railroad would intersect. When Thrasher discovered that a depot and ancillary buildings were to be constructed a mere 1200 feet southeast of the originally proposed junction, he immediately sold off—at half the price paid—the surrounding 100 acres he had previously purchased because he feared the land too distant from the planned structures to be useful!¹

The second verity, which stems from the first, is that the area’s water resources did not factor into the site selection, or at least not in any typical way. In fact, it was the appreciable absence of a major interior river or harbor site that contributed to the founding of the city, a point that stands in stark contrast to virtually every major urban area to emerge in the United States. Due to the presence of numerous shoals and rock outcroppings, the Chattahoochee River, the state’s lengthiest internal river, was considered un-navigable above Columbus, Georgia, a fact which made railroads

¹ William Stafford Irvine, “Terminus and Deanville, Local Names of Long Ago, of the Site of Atlanta,” *The Atlanta Historical Bulletin* 3 no 13 (April 1938): 113-4; James Michael Russell, *Atlanta, 1847-1890: City Building in the Old South and New* (Baton Rouge: Louisiana State University Press, 1988), 15-37.

particularly attractive to nineteenth-century commercial interests. Stephen Harriman Long selected the location because a nearby ridge provided an ideal turnaround spot for a web of railroads that were to link Georgia to the markets of the western United States. What is more, the ridge's gently falling slope was oriented towards the river that was eight miles to the northwest. The region, moreover, was sparsely inhabited and those few people living in the area could obtain fresh water supplies from numerous natural springs and streams. Ironically, the Chattahoochee River, which now supplies metropolitan Atlanta with nearly 80 percent of its daily water needs, was no more than an obstacle to hurdle for the benefit of the state's previously established cities.²

These overlooked facets of Atlanta's early history—unanticipated population growth and the limited amount of total water resources—have continued to be defining elements of the region's more recent development. Presently, the ten-county metropolitan Atlanta region is home to more than 4.1 million residents and this figure is expected to increase to at least 5.25 million over the next twenty years. More than 3 million of these people, fully one-third of Georgia's population, depend on the Chattahoochee River basin as their principal water source. Not only is Atlanta dependent on surface water for an astounding 98 percent of its total water needs, it is reportedly the country's largest metropolitan region to rely on a watershed so small.³

² A. Hollis Edens, "The Founding of Atlanta: Part I," *Atlanta Historical Bulletin* 4 no 18 (1939), 221; For the final route and location of the W & A terminus, see A. Hollis Edens, "The Founding of Atlanta: Part II," *Atlanta Historical Bulletin* 4 No 19 (1939), 275-90; for water use, see Metropolitan North Georgia Water Planning District *Planning for Our Future: Water Supply and Water Conservation Management Plan* (June 2003): 2.

³ Atlanta Regional Commission. *Cities and Towns: 2010 Yearbook of Growth and Change* (Atlanta, 2011), 3. http://documents.atlantaregional.com/infocenter/Cities_And_Towns_Report_2010.pdf (accessed September 16, 2011); The Boston Consulting Group and the Metro Atlanta Chamber of Commerce. *Final Report of the Clean Water Initiative*. (2000), i; "Lake Lanier has Three Months of Water Storage Left" *Atlanta Journal-Constitution* 11 October, 2007.

The difficulties of sustaining a metropolis with limited water resources have been numerous. Although Atlanta receives an average of 48 inches of rainfall per year, only about 18 inches is available to serve as a source for stream flow after evaporation and transpiration occurs. In addition, while periodic droughts have frequently reduced the total quantity of water reaching the metropolitan region, the area's numerous ridges and valleys has created a myriad of drainage basins that divert water withdrawn from the Chattahoochee River for purposes of water supply into different watersheds. This flow of water away from the Chattahoochee River has in turn limited the Chattahoochee River's ability to dilute increased amounts of effluent and has made wastewater management a more problematic and expensive endeavor.

Haphazard regional planning and lax environmental programs have exacerbated the constraints nature has imposed. Since the end of the Second World War, Atlanta's civic leaders have pushed for dams and reservoirs to impound the Chattahoochee's meager flows while at the same time engaging in policies that seemingly encouraged decentralized population growth and proliferate water consumption. For example, the average water customer for the City of Atlanta, who may reside anywhere within the city's 650 square mile service area, consumes 168 gallons per day while the average American uses between 80 to 100 gallons per day. Meanwhile, Atlanta continued to dump millions of gallons of untreated municipal sewage into its local waterways because it consistently delayed making necessary improvements to its wastewater system, which has prompted federal and state regulatory agencies to levy nearly \$20 million dollars in fines against the city and repeatedly threaten it with construction moratoriums.⁴

⁴ Metropolitan North Georgia Water Planning District. *Water Supply and Water Conservation Management Plan* (Atlanta, May 2009), Table 3-2, p. 3-7,

This combination of aggressive water use and persistent pollution ultimately led downstream water users and environmental activists to seek court action to force the city to confront the external costs of its lumbering approach to metropolitan development. In 1990, the states of Alabama and Florida, fearful that Atlanta's great thirst would severely affect their own economic well-being, initiated more than twenty years of litigation to decide whether metro Atlantans have the right to withdraw increased amounts of water from the federally-operated Buford Dam for purposes of water supply. And though a recent appellate court decision determined that water supply is an authorized purpose of the dam, and thereby overturned a previous ruling that threatened to reduce withdrawal amounts to mid-1970s levels and potentially halt future growth, the three-judge panel instructed the Corps of Engineers to define how much water can be allocated for supply purposes. Meanwhile, Alabama and Florida vowed to challenge this decision before the U.S. Supreme Court. In a separate case, citizen activists successfully sued the City of Atlanta in 1995 for its failure to meet federal and state water pollution control standards. The resulting Consent Decree, which was signed by the City of Atlanta in 1998, committed the city to an accelerated program of activities designed to further improve water quality in metro Atlanta streams and rivers. Consequently, Atlanta citizens are currently paying the highest water and sewage rates in the country in order to resolve more than a generation of environmental neglect.⁵ Clearly, the issue is not simply the amount of rain that falls from the sky, but how that amount has been managed over time.

http://www.northgeorgiawater.com/files/Water_Supply_Water_Conservation_Plan_May2009.pdf (accessed August 11, 2011); Jerry Grillo, "Water Worries," *Georgia Trend*. (May 2002): 29.

⁵ "Appeals Court Refuses to Re-hear Tri-State Water Case," *AJC*, 19 September 2011; According to the Miami-Dade Water and Sewer Department, the average residential customer in Atlanta has a monthly combined sewer and water bill of approximately \$142. The average customer in the next most expensive

PURPOSE OF STUDY

This dissertation explores the challenges Atlanta's public officials, engineers, and activists faced in planning and implementing an effective environmental policy, with particular emphasis placed on the era of post-World War II metropolitan development. Specifically, it focuses on historical efforts to achieve the comprehensive management of the area's water resources, the technological systems adopted and solutions proposed, and the political and social milieu that facilitated or hampered these endeavors.

At its heart, the dissertation asks two fundamental questions: 1) How adequately can urban leaders plan for metropolitan growth and its resource requirements?; and 2) Can the participating institutions engage in long-term environmental management and still remain responsive to a seemingly atomistic public? Offering detailed analysis of four illustrative episodes in the history of Atlanta's post-war development, this dissertation demonstrates that comprehensive water resources management was a neglected and delayed policy approach that was undertaken only under overt threat of federal intervention. It argues that although the area's regional planning body, the Atlanta Regional Commission, advocated for intergovernmental cooperation with respect to managing Metropolitan Atlanta's total water needs, these calls were undermined at various times by fragmented local governance, timid political leadership, and a largely indifferent public. It further suggests that Atlanta's water supply managers, through increases in the scale and scope of their operations and a reluctance to increase customer rates, facilitated and encouraged greater water consumption, which, in turn, placed intense burdens on both the natural hydraulic cycle and the city's wastewater facilities.

city, San Francisco, pays about \$116 per month. See Miami-Dade Water and Sewer Department. "Rate Comparison," <http://www.metro-dade.com/wasd/rate-compare.asp>. (accessed September 8, 2011).

Lastly, it argues the citizen activists as well as state and federal regulators have utilized the federal court system as a blunt planning instrument when Atlanta's leaders displayed their seeming incapacity to handle the environmental strains of uncoordinated metropolitan development.

SCHOLARLY CONTRIBUTIONS

By exploring Atlanta's response to a number of water-related problems, this dissertation broadens our understanding of technology in the urban environment in two important ways. *First*, by focusing on what historian Richard White calls "the everyday consequences of environmental change induced by humans," it seeks to provoke reconsideration of seemingly mundane but interrelated water and land-use policies and practices that have threatened to derail the city's economic development. *Second*, it will provide insights into how federal water pollution control programs strengthened the mandates of embryonic state regulatory agencies, empowered local environmental activism, and prompted holistic approaches to water resource management.⁶

RELEVANT BACKGROUND MATERIAL

Well before Atlanta's public officials attempted to define a coherent water policy, its earliest residents were cognizant of the advantages and disadvantages of their natural environment. Nestled within the favorable elevations of the Appalachian piedmont, the area enjoyed an abundant amount of annual rainfall. In addition, not only did the rolling hills present a picturesque landscape but the swiftly moving streams that careened

⁶ Richard White, "Environmental History, Ecology, and Meaning" *Journal of American History* 76 no 4 (March 1990):1115.

through the area's narrow valleys and fed the Chattahoochee River showcased a latent industrial potential as well. As cotton production spread into the interior of the state, enterprising men set about constructing dams, raceways, and equipment to harness the power of water and establish a regional textile industry.

And while the tumbling topography allowed for the marriage of cotton production and cotton manufacturing, the crystalline bedrock that under-girded the region also meant that trade routes were circumscribed. Few roads existed over the hilly terrain and the Chattahoochee River remained virtually un-navigable due to the visible rock outcroppings above the Fall Line, the geographic region of Georgia where the Piedmont's crystalline bedrock meets the Coastal Plain's unconsolidated sedimentary rock. After proposals to connect Georgia to Western trade routes via a system of canals were deemed impractical, a state-financed railroad network facilitated access to the distant markets that water-bound traffic could not. People, like goods, began to ride the rails into the burgeoning distribution center and many settled permanently. Although little more than a depot and a few crude structures in the 1840s, Atlanta's population climbed steadily, reaching just under 8,000 by the dawn of Civil War.

Municipal Water Supply

As population densities increased, springs, wells, & cisterns proved to be insufficient sources of water for what was becoming the regional shipping center of the post-Civil War South. Local residents were chastened by Sherman's recent torching and fearful of being struck by the water-borne diseases plaguing other southern cities. They reacted in 1870 by authorizing the City of Atlanta to finance and construct a municipal

water works. But this 2 million gallons per day (MGD) water supply station, located on the headwaters of the South River, some five miles south of downtown Atlanta, was a virtual stillborn. From the outset it lacked the necessary pressure to perform even its intended functions, namely fire protection and street and sewer cleansing for the business district. Moreover, because the city's natural drainage courses were little more than open sewers that emptied rain washings into the system's reservoir, the South River facility's untreated water supply output was considered undrinkable by the 1870s. Similarly, an artesian well, bored in 1884 to supplement the South River system, was quickly declared unsafe by the local board of health because the city chemist found that surface drainage had also contaminated the well.⁷

Until city officials followed the recommendation of noted sanitary engineer Rudolph Hering and chose the Chattahoochee River as the source of supply in the early-1890s, Atlantans lacked a centralized system to provide its citizens with potable water. Completed in 1893, the new system had a 20 MGD capacity and was composed of two interconnected complexes. Water was withdrawn, roughly six miles above downtown Atlanta, at the Chattahoochee River Intake and Pumping Station and thrust uphill through a 30 inch main to a 176 million gallon reservoir at the Hemphill Water Treatment Plant. The raw water was then sent through settling basins and mechanical filters before ultimately entering the distribution system for public consumption.

Despite having both the largest reservoir in the South and the best filtering technology available at the time, the Atlanta Water Works' (AWW) production of potable water could barely keep pace with the city's skyrocketing population and

⁷ John Ellis and Stuart Galishoff, "Atlanta's Water Supply, 1865-1918" *The Maryland Historian* 8 no1 (Spring 1977): 6-8.

demands for ever-cleaner water. Coagulating basins and chlorination were soon added to further enhance quality. A second reservoir was constructed by 1923, making the capacity of the two reservoirs 500 million gallons, and treated capacity at Hemphill was increased to 62 MGD. After a third major expansion initiated in 1941 was completed, total system capacity reached 72 MGD.

In 1952, the City of Atlanta initiated its “Plan of Improvement,” a massive overhaul of county and city government functions that resulted in the city increasing in size from 36 to 118 square miles and gaining an estimated 100, 000 new citizens. In an effort to meet the immediate and future water needs of the newly annexed areas, the AWW embarked upon a 10-year program of expansion that rivaled any in the country. Divided into two, five-year periods, the program was to cost one million dollars per year. Aimed at establishing a 600 square mile service area by the mid-1960s, plans called for distribution piping extensions, additional storage tanks, and the construction of an additional treatment facility near the Chattahoochee River. Upon the completion of the Chattahoochee Water Treatment Plant in 1960, Atlanta became the only city in the nation to have two, independently operating water systems.⁸

Furthermore, throughout the early 1950s, city leaders and the cadre of engineers at the helm of the AWW pushed for federal construction of Buford Dam and Lake Lanier as an impoundment to regulate the flow of the Chattahoochee River and assure sufficient water for the city at all times. With this supply secured just prior to the onset of Sun Belt development, the AWW fashioned itself into a wholesale supplier of treated water to a

⁸ City of Atlanta, Department of Water Works, “A Century of Progress, 1875-1975: The Story of Atlanta’s Water System” (1975), 13-14 (hereafter cited as AWW, “A Century of Progress”); “Two Water Systems for City of 1,000,000” *Atlanta Journal* 1 January 1960.

burgeoning metro population. In fact, by 2007, when the entire Atlanta metropolitan region topped the 5 million-person mark and the City of Atlanta's population remained below 500,000, the AWW's system alone had grown to a rated capacity of over 200 MDG, which equaled over one-third of the entire water withdrawn daily from the Chattahoochee.⁹ These developments, without a doubt, aggravated decades-old tensions between Georgia, Alabama, and Florida about how the river's water should be allocated for the benefit of all.

Wastewater Systems

If Atlanta's water suppliers were hard-pressed to stay ahead of population growth curves, its sewer service providers may have had it doubly hard. Unlike the revenue-generating water supply system, sewers are generally considered an obligation. Whereas the water supply system appears to have been a major element in accommodating and anticipating Atlanta's explosive growth, construction of wastewater treatment facilities seems to have been sluggishly reactive and have repeatedly threatened to derail further economic development. Secondly, and again in contrast to water supply, the problems of wastewater treatment were not confined to increases in scale and the refinement of technique. Instead, they have been continually redefined as our understanding of environmental processes has changed and have thus required Atlanta's policymakers to make hard choices about their reliance on accepted theories as well as the efficacy of particular capital intensive technologies. These debates were often centered on whether to

⁹ "Atlanta Growth Tops in Nation" *AJC*, 5 April, 10 November 2007. This figure does not include the 90 million gallons per day (MGD) capacity of the Atlanta-Fulton County Treatment Plant, which is jointly owned by the city and county but operated by the City of Atlanta.

utilize combined versus separate sewers, to dilute or treat increased amounts of sewage, to pursue lofty goals of “zero” pollution discharges, or how to address the growing concern over non-point sources of pollution.¹⁰

Although Atlanta was certainly not alone in confronting these major dilemmas, its history remains instructive. Atlanta’s sewerage system lacked anything approaching coherence until the late 1890s, despite the increased amounts of water entering and exiting homes after the first municipal water supply was established. Adopted in an atmosphere of southern fiscal conservatism, local leaders chose the wastewater system as a means to shift household and street pollution to outlying watercourses and to delay treatment until future population growth required it.

The needed changes came sooner than anyone anticipated. Not only was the population swelling, but local watercourses, due to the city’s uneven topography, did not always contain the volume necessary to dilute the increased sewage amounts. Under mounting pressure from the business community and the local press to address the unsanitary conditions, city leaders in 1910 authorized the construction of three wastewater treatment plants—which were completed in 1916 with a total combined treatment capacity of 16 MGD—and the extension of trunk lines and interceptor sewers.

Despite periodic infusions of federal money, most notably in the mid-1930s and again during the 1970s, the Chattahoochee River and other metro waterways had become, by the last decades of the twentieth century, a stinking reminder of Atlanta’s failed water pollution control policies. Years of unchecked phosphate discharges, excessive sewer overflows, and numerous other federal water quality violations led local activists, the

¹⁰ For further analysis of the evolution of wastewater treatment over the last two hundred years, see Martin V. Melosi, *The Sanitary City: Urban Infrastructure in America from the Colonial Times to the Present*. (Baltimore: The Johns Hopkins University Press, 2000), passim.

Environmental Protection Agency, and the Georgia Environmental Protection Division to jointly file suit against the City of Atlanta in 1995. The resulting Consent Decree, which was signed later that year, prompted the city of Atlanta to undertake a massive sewer improvement program estimated to cost nearly \$4 billion.

What is, perhaps, most striking about Atlanta's history of water resources management is that the city ostensibly had a chance to enjoy a "free lunch" of the previous experiences and problems of other older urban areas. New technologies were certainly utilized. For example, Atlanta's early adoption of Hyatt-type filters, a settled solids facility, and Imhoff tanks between 1912 and 1916 were some of the first large scale applications of these technologies in the country. But the range of technologies employed, most of which are complex in their detail but simple in their essence, could not be the only solution to its water woes. Some techniques and practices were clearly beneficial, while others inevitably created larger problems. Atlanta, for various reasons to be explored, painted itself into the proverbial corner with respect to environmental policy. The principal task of this dissertation is to analyze the policies that contributed to this situation.

LITERATURE REVIEW

As previously stated, the way in which the natural environment and technology have factored into Atlanta's metropolitan development is a theme that has been largely under-examined by historians. This is not to suggest that land and water should be considered the primary catalysts for the region's overall development, but it is important that they be brought to the fore and analyzed. Although this work might be of interest to

researchers in tangential disciplines, it will be primarily drawn from and directed to historians interested in technology and the urban environment. This sub-field of history, which has coalesced after decades of individualized works, has tremendously enriched our understanding of the reciprocal relationship between the built and natural environment. The following section is a review of some of the scholarship that will be engaged.¹¹

Because technological and environmental problems must be understood in the context of related urban concerns, it is important to recognize several outstanding interpretive histories of Atlanta and how the proposed study builds upon but shall ultimately depart from them.¹² For instance, Don Doyle's outstanding comparative study of "the city-building process" of nineteenth-century Atlanta, Nashville, Charleston, and Mobile, like Michael Russell's *Atlanta, 1847-1890*, recognizes the presence of a growth-oriented business class as a defining element in Atlanta's post-Civil War success. In Doyle's view, Atlanta's merchants, industrialists, financiers, and newsmen stressed integration with the national economy and endeavored to create local institutions to achieve those ends. But whereas Russell emphasizes the considerable continuities

¹¹ This assessment is based on my reading of Jeffery K. Stine and Joel A. Tarr, "At the Intersection of Histories: Technology and the Environment" *Technology and Culture* 39, no. 4 (October 1998): 601-640.

¹² Franklin Garrett's massive, three-volume *Atlanta and Environs* (third volume completed by Harold H. Martin) remains perhaps the single best reference for the city's history. Liberally interspersed with block quotations of legislative actions, it is nonetheless excluded from this discussion because it is a straight ahead narrative of events that essentially bereft of interpretive analysis. See Franklin M. Garrett, *Atlanta and Environs: A Chronicle of Its People and Events*, Vol. 2, (Athens: University of Georgia Press, 1969); Franklin M. Garrett and Harold H. Martin, *Atlanta and Environs: A Chronicle of Its People and Events*, Vol. 3, Years of Change and Challenge, 1940-1976, (Athens: University of Georgia Press, 1987).

between the Old South and New, Doyle takes a different tack.¹³ He suggests that Atlanta's business class adopted a particular set of attitudes and practices, predicated on seeing the Civil War as a challenge to overcome, that "strengthened the city's role as the gateway of the South."¹⁴

Despite Doyle and Russell's assertion that Atlanta's commercial elites understood that regional success depended, in part, on a measure of racial progress, the authors also demonstrate that "the spirit of self-sacrifice" was only minimally extended to the city's African American population. And by illustrating that Atlanta's antebellum racial caste system was reified in public service and housing patterns of the period, Doyle and Russell anticipate themes explored more thoroughly by historians Ronald Bayor and Kevin Kruse.

Interested in dissecting the phenomena of prejudice and discrimination in urban public policy, Bayor analyzes race as the key variable in Atlanta's twentieth century development. He argues that although boosters labeled Atlanta as a "city too busy to hate," rigid racial attitudes overwhelmingly affected the contours of urban development. Atlanta's settlement patterns, housing and employment opportunities, health care and recreational facilities, and city services such as police, fire protection, and mass transit were all tainted by racial biases. Similarly, Kevin Kruse's *White Flight: Atlanta and the Making of Modern Conservatism*, attempts to explode the myth of Atlanta's racial

¹³ Russell argues that "Atlanta's economic leaders after the war shared many of their predecessor's social characteristics and city-building ideas. Moreover, several of the antebellum leaders survived the war and renewed their urban promotive schemes in the city after 1865 . . . New South ideologies and an urban middle-class leadership in Atlanta were thus anticipated in the era before the Civil War." Russell, *Atlanta, 1947-1890*, 5.

¹⁴ Don H. Doyle, *New Men, New Cities, New South: Atlanta, Nashville, Charleston, Mobile, 1890-1910* (Chapel Hill and London: The University of North Carolina Press, 1990), 33.

moderation by showing how outright attempts to derail the Civil Rights movement were later reconstituted into subtler forms of discrimination such as suburban exclusion, tax revolts, school vouchers, and privatization of public services.¹⁵

While these monographs have much to teach us about the ways in which collective entrepreneurship and racial prejudice informed the city building process, urban infrastructure remains a secondary concern. As a result, the built environment—the synthesizing of technologies and the physical environment and the methods by which these take place—remains in the black box. Although various communities are shown to have utilized transit systems or street configurations for purposes of commercial development and/or racial exclusion, for the authors in question, it seems urban technologies are simply available to be deployed. Absent from their analysis are the messy compromises that normally appear in initial phases of design and application. Technological policy, much like environmental impact, requires sustained analysis, which this proposed study intends to provide.

Historian Stuart Galishoff tries to strike that elusive balance between urban boosterism, racial politics, public health, and technology. He argues that efforts to secure municipal water supply and wastewater systems in Progressive-era Atlanta were motivated by amalgamated desires: to avoid water-borne diseases; to shield the business and residential districts from conflagration; and to protect the city's reputation for

¹⁵ Ronald H. Bayor, *Race and the Shaping of Twentieth Century Atlanta* (Chapel Hill and London: The University of North Carolina Press, 1996); Kevin Kruse. *White Flight: Atlanta and the Making of Modern Conservatism* (Princeton: Princeton University Press, 2005); The environmental justice movement, which proposes that minority communities have been disproportionately affected by environmental hazards created by both private enterprise and the government, has received a fair amount of scholarly attention. For an instruction to the issue, see Robert D. Bullard, *Dumping in Dixie: Race, Class, and Environmental Quality*, 3rd ed. (Boulder: Westview Press, 2000); For a summary of its history, see Martin Melosi “Environmental History: Political Agenda Setting and the Myths of History” in *Effluent America: Cities, Industry, Energy, and the Environment*. (Pittsburgh: University of Pittsburgh Press, 2001): 238-262.

salubrity. Galishoff notes that Atlanta's black population, lacking easy access to the municipal water supply and living in the lowest, most-poorly drained sections of the city, had mortality rates nearly 70 percent higher than their white counterparts. Public officials extended water and sanitary lines into the black community, he insists, only after the slow realization that "germs know no color line," i.e., the potential for black domestics to bring diseases into white homes.¹⁶

Although Galishoff's studies focus almost exclusively on Atlanta's political and commercial elite, and depict a seemingly static environment, he nonetheless joins a growing community of scholars who center attention on technology in the urban setting. Many researchers highlight issues involving urban planning and urban ecology; some provide insights into ongoing public health and pollution concerns. Still others analyze the evolving connections between cities and their hinterlands.

As to the first set of themes—urban planning and ecology—numerous scholars, after noting the ways in which cities seemingly inhale/intake, transform and consume, and then exhale/exhaust resources, have flirted with treating urban areas as natural organic systems. But as historian Martin Melosi notes, this approach is potentially constraining. On the one hand it highlights issues of rational functioning and reorganization of resources, but on the other it often casts the natural environment as a fixed backdrop to human activity. He suggests, rather, that we view cities as "open systems," which exhibit the complex interplay between human society and the outside

¹⁶ Ellis and Galishoff, "Atlanta's Water Supply," 5-22; Stuart Galishoff, "Paying for the Cost of Growth: The Environmental Engineering Debate in Atlanta, 1877-1914," *Essays in Public Works History* 18 (Winter 1984/85): 9-28; Stuart Galishoff, "Germs Know No Color Line: Black Health and Public Policy in Atlanta, 1900-1918," *Journal of the History of Medicine and Allied Sciences* 40 (1985): 22-41.

world. This analytical method, he contends, better equips us to recognize the animating forces in the growth and development of cities.¹⁷

Analyzing cities in terms of evolving open systems also illuminates the extent to which human agents consciously manipulate the spaces and materials surrounding them, and how those early technological decisions may constraint future options. Urban planning and engineering practices are necessarily large factors in these activities. Thomas Hughes has been the preeminent advocate of this approach. Although best known for his work on electric utility networks, his numerous publications on large technical systems have contributed to our understanding of how engineers, managers, and politicians integrated technological, scientific, economic, and social criteria into the “seamless web” of urban infrastructure. Similarly, Martin Melosi’s synthesis, *The Sanitary City*, chronicles the way in which changes in disease theory brought about new environmental paradigms and consequently re-shaped the ways in which physicians, politicians, and engineers grappled with water, wastewater and garbage collection systems in American cities.¹⁸

With respect to urban planning and infrastructure, water supply systems have drawn the most attention. This is because urban residents and industries need water to survive, and securing this resource has required the use of increasingly larger

¹⁷ Martin V. Melosi. “The Place of the City in Environmental History” in *Effluent America*, 129-30.

¹⁸ Thomas P. Hughes. *Networks of Power: Electrification in Western Society, 1880-1930* (Baltimore: The Johns Hopkins University Press, 1983); Thomas P. Hughes “The Seamless Web: Technology, Science, Etcetera, Etcetera” *Social Studies of Science*, Vol. 16, No. 2 (1986): 281-292; Melosi, *The Sanitary City*. Although they do not adopt a “system approach” as does Hughes, Clay McShane and Stanley Schultz’s classic study of the role of engineers in city planning is a defining work that should not be ignored. Stanley K. Schultz and Clay McShane, “To Engineer the Metropolis: Sewers, Sanitation, and City Planning in Late-Nineteenth-Century America” *The Journal of American History* 65 no2 (Sept 1978): 389-411.

technological systems.¹⁹ Nelson M. Blake's *Water for the Cities* was a pioneering work in this field. Published in 1956, well before the Hughesian systems outlook gained academic traction, he examined the issues New York, Philadelphia, Boston, and Baltimore overcame to establish reliable water supplies. And though successive generations of monographs and case studies added depth to Blake's comparisons, his narration of public versus private ownership controversies, fear of epidemics and fire, and partisan politics is one of inestimable value.²⁰

Two of Blake's most noteworthy successors are Norris M. Hundley and Sara Elkind. Hundley's *The Great Thirst* is perhaps the quintessential discussion of the myriad motivations and ways by which Californians obtained water for purposes of urban water supply and agricultural irrigation. Eschewing Donald Worster's Marxian overtones of conquest and of "hydraulic empires" created simply for the benefit of the propertied elites, Hundley instead emphasizes mediation and consensus. He argues that although California's water projects were constructed by the state, they were also embraced by most citizens because they offered a chance at greater economic prosperity and a better life for all through the redistribution of water from places of abundance to places of scarcity.²¹

¹⁹ Joel A. Tarr. "Urban History and Environmental History in the United States: Complementary and Overlapping Fields," in *Environmental Problems in European Cities of the 19th and 20th Century*. ed. Christoph Bernhardt (New York/Muenchen/Berlin: Waxmann, Muenster, 2001): 25-39. Martin V. Melosi. *The Sanitary City*.

²⁰ Nelson Manfred Blake, *Water for the Cities: A History of the Urban Water Supply Problem in the United States* (Syracuse: Syracuse University Press, 1956); for scholarship delving deeper into the cities and issues Blake explores, see Fern L. Nesson, *Great Waters: A History of Boston's Water Supply* (Hanover and London: University Press of New England, 1983); William L. Kahrl, *Water and Power: The Conflict over Los Angeles' Water Supply in the Owens Valley* (Berkeley: University of California Press, 1982).

²¹ Norris Hundley, Jr., *The Great Thirst: Californians and Water, 1770s-1990s* (Berkeley: University of California Press,) 1992; Donald Worster, *Rivers of Empire: Water, Aridity, and the Growth of the American West* (New York: Pantheon Books, 1985).

Likewise, in her comparisons of “the Battle for Resources in Boston and Oakland,” Sara Elkind shows how these two areas enthusiastically embraced special metropolitan districts during the Progressive period to ensure the regional management of both their water supply and wastewater systems. She convincingly argues that although each city moved toward these institutions for different reasons—urban sewage in Boston and unreliable water sources in Oakland—both, in time, chafed under these political decisions because of diminished local control and persistent environmental concerns.²²

While both of the above authors privilege decisions made by political and civic leaders, each demonstrates how technological choices can lead to unforeseen environmental dilemmas. Historian Joel Tarr has arrived at similar conclusions in his groundbreaking investigations of urban sewer technologies and the sanitary engineers who designed them. For instance, he has shown that the adoption of municipal water supplies during the nineteenth century overwhelmed the capacity of privy vaults, which in turn led city engineers to construct water-carriage systems that ultimately deposited untreated sewage into distant streams for dilution. Suggesting that benign environmental results may be possible, Joann Abel Goldman splits the difference between Tarr’s experts on the one hand and Hundley and Elkind’s political machinations on the other. Her analysis of “mechanisms of management,” i.e., municipal financing capabilities, professional engineers, and political institutions, help explain how New York City’s

²² Sara S. Elkind, *Bay Cities and Water Politics: The Battle for Resources in Boston and Oakland* (Lawrence: University of Kansas Press, 1998).

sewers grew from patchwork efforts to a centralized system operated and controlled by professional sanitarians/engineers rather than popularly elected officials.²³

Despite minimal treatment of both the urban environment and water infrastructure, there is one last set of scholars whose works should be recognized for the influence they have had on my own thinking about Atlanta. William Cronon's *Nature Metropolis* explores the interconnections between city and countryside and how commodities of Chicago's hinterland—grain, lumber, and beef—were transported to the city for processing and shipment to other distant markets. Cronon argues that technologies that made such activities possible transformed “first nature” into “second nature” and thereby obscured, for most urbanites, the reciprocal relationship that the city has with its countryside.²⁴

Adam Rome's *The Bulldozer in the Countryside* also analyzes consumptive patterns, but in a slightly different way. Rome takes aim at the environmental consequences of post-WWII affluence: how suburban sanitary technologies (septic tanks) and land-use and housing patterns (electrically heated and cooled homes, bulldozed landscapes) caused groundwater and stream pollution, soil erosion, and loss of animal life and habitat. Anticipating an ostensibly inexorable desire for Americans to move from the confines of the city, residential developers, he argues, ignored environmental

²³ Joann Abel Goldman, *Building New York's Sewers: Developing Mechanisms of Urban Management* (West Lafayette: Purdue University Press, 1997); For more a thorough understanding of the contributions Joel Tarr has made to the field of urban environmental history and the history of technology, see Joel Tarr, *The Search for the Ultimate Sink: Urban Pollution in Historical Perspective* (Akron: The University of Akron Press, 1996).

²⁴ William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W.W. Norton & Company, 1991). Historian Richard White has drawn similar conclusions with respect to our hidden dependence on transformed natural resources. See, for example, his study of the various forms and uses of energy that emanates from the Columbia River. Richard White, *The Organic Machine: The Remaking of the Columbia River* (New York: Hill and Wang, 1995).

considerations in favor of single-family dwellings that utilized highways, open spaces, and copious amounts of natural resources. But, as Rome demonstrates, these actions spawned a new environment ethic that was promoted by the most unlikely partners, namely government agencies and suburban residents. In doing so, Rome adds a wrinkle to the historiographic fabric that suggests that the environmental movement was simply the result of urbanites taking progressive steps toward cleaning up their either own backyards or protecting untrammeled “wilderness” landscapes.²⁵

ORGANIZATION OF STUDY, SOURCES, & METHODOLOGY

This dissertation is concerned with broadly defined issues of political economy, particularly the role of local and federal institutions in shaping urban environmental policy and technology. To address these issues, it bases its analysis around four representative periods: 1) the city’s regional development plans of the 1950s and 1960s that included the construction of Buford Dam and the water supply expansion programs contained within the annexation program known as the “Plan of Improvement”; 2) the federally-financed Three Rivers Water Quality Management Program, which began in 1972 and was completed in 1985, and was designed to return treated wastewater back to the Chattahoochee River; 3) the public backlash and legal actions of the 1980s and 1990s directed at ending the city’s repeated violations of federal water quality standards; 4) ongoing legal disputes, dating back to the mid-1960s, between Georgia, Alabama, and

²⁵ Adam Rome, *The Bulldozer in the Countryside: Suburban Sprawl and the Rise of American Environmentalism* (Cambridge: Cambridge University Press, 2001); for a sample of traditional view that environmentalism emerged in the cities, see William Cronon, “The Trouble with Wilderness; or Getting Back to the Wrong Nature” in *Common Ground: Rethinking the Human Place in Nature*, ed. William Cronon (New York: W.W. Norton and Company, 1996), 69-90; see also David Stradling, *Smokestacks and Progressives: Environmentalists, Engineers, and Air Quality in America, 1881-1851* (Baltimore: The Johns Hopkins University Press, 1999).

Florida, over whether metropolitan Atlanta's increased size and daily water withdraws have deprived its downstream neighbors of their rights to the waters of the Chattahoochee River.

The study is composed of an introduction, five chapters, and a conclusion. These sections are arranged chrono-thematically for full coverage of the respective water supply and wastewater issues but do contain some significant temporal overlap. The introductory and concluding chapters are used for discussions of historiographical and thematic debates. The remaining five utilize the aforementioned case studies to flush out the dissertation's central arguments.²⁶

As a work that explores the nexus between political organizations, technical experts, and civic activists, this dissertation draws heavily on archived, primary sources in addition to secondary literature and local newspaper accounts. These former sources include federal, state, and city agency correspondence and policy statements, individual manuscript collections, relevant organization documents, engineering reports, operation and maintenance manuals, and city department records.

Following the **Introduction** that presents the thesis and relevant literature, **Chapter One** provides a sweeping summary of Atlanta's development up to the First World War. Synthesizing literature from geology, climatology, and other physical sciences, it explains the natural processes and transformations that pre-dated human settlement in the region in order to create a context for understanding the environmental opportunities and constraints that would later affect the region's inhabitants. This chapter

²⁶ Although water supply and wastewater facilities are parts of a single sequence of service, and various organizations have advocated their unification, operations were administratively separate for almost the entirety of their existence. I have not discovered any credible explanation of why this was so. In 2002, Mayor Shirley Franklin combined both operations under the newly established Department of Watershed Management.

also includes an examination of the differing worldviews of Native American and white settlers and how each group related to the region's water resources by drawing upon both ethno-historical scholarship as well as existing primary evidence. Lastly, it details Atlanta's transition from decentralized and rudimentary water and wastewater systems to the establishment of "modern" municipal systems in the late nineteenth century and early twentieth century.²⁷

In addition to its use of relevant secondary literature, this chapter uses various primary sources located at the Atlanta History Center (AHC). In particular, the journal entries and manuscripts from Samuel P. Richards and Sarah Huff's respective archival collections offer first-hand accounts of Atlanta's transformation from a rural hamlet whose water was supplied by wells and springs to a bustling town that required municipal water and sewer services.

Chapter Two focuses on the city's mid-twentieth century attempts to reconcile the limited supplies of a natural watershed with the ambitions of a regional metropolis. As the region entered the post-war years, local residents recognized that the natural flow of the Chattahoochee River was insufficient to meet the demands of a growing population. Eager to foster economic development, the region's political and civic leaders lobbied for the construction of the federally-financed Buford Dam in order to secure needed water supplies. At the same time, however, Atlanta's politicians, planners, and

²⁷ Definitions of "nature" are fundamentally imperfect. For the purposes of this dissertation, it includes the material, biological, and ecological components of the physical settings under investigation. Environment is also tricky to define. As historian Ellen Stroud writes, "the 'environment' is something both more and less than 'nature,' at once a material reality separate from ourselves, an enveloping world of which we are a part, and a series of social construction." For my working model, I will rely on Martin Melosi's justification of the field of environmental history: "Environmental history is about the role and place of the physical environment in human life." Ellen Stroud, "Does Nature Always Matter? Following Dirt through History" *History and Theory*, 42, No. 4, Theme Issue 42: *Environment and History*, (Dec., 2003): 78; Melosi, "The Place of the City in Environmental History," 128.

business community showed their determination to solidify their city's position as the premier urban center of the southeastern United States. To that end they developed plans whereby Atlanta could both triple its corporate size by annexing its unincorporated suburban fringe and serve as an anchor for future metropolitan development.

Chapter Two includes material that was obtained from a variety of repositories and is both technical and political in content. The civil and environmental engineering firm of Wiedeman and Singleton (W&S), which served as the consulting firm for the City of Atlanta for most of the twentieth century, has provided this researcher with access to its entire inventory of reports and drawings. The Atlanta History Center also contains primary materials to be used for Chapter Two. Among them are nine reports, published by the Atlanta Regional Commission (ARC) between 1952 and 1973, dealing with regional water and land use planning. Virtually every Comprehensive Development Report written by consulting engineers and executed by municipal engineers for Atlanta is based upon demographic projections created by the ARC, the first publicly-supported, multi-county planning agency in the United States. A bevy of Annual Reports created by the Atlanta Water Works are also used. Published and distributed to the public between the years 1952 and 1973, these pamphlets, which contained the mantra "Atlanta Grows Where Water Goes," help to link the technical dynamics of the water supply system to the political and economic context of Atlanta's metropolitan growth. These public relations reports will be supplemented by documents from the manuscript collection of former Atlanta mayor William Hartsfield, which are located in the Emory University Library Special Collection division. Selected inaugural speeches and correspondence demonstrate that Hartsfield, who oversaw the 1952 annexations and championed federal

construction of Buford Dam and Lake Lanier, was a vocal advocate of regional development that vigorously supported AWW extension plans.

Chapter Three explores Atlanta's fitful efforts to address its water pollution problems. It emphasizes the preponderant role of federal and state regulatory agencies in pressuring the City of Atlanta to make improvements to its wastewater treatment system, which culminated in completion of the federally-financed Three Rivers Water Quality Management Program. Initiated after passage of the Water Pollution Control Act of 1972, this project was aimed at diminishing discharges in three small waterways located southeast of Atlanta and reducing pollution levels entering the Chattahoochee River. Ambitious in scale, it called for conveying better treated effluent back across the Eastern Continental Divide via a tunnel, ten feet in diameter, and dumping it into the larger Chattahoochee River, the water course from which it was originally drawn.²⁸

Informed by Adam Rome's analysis of how certain federal agencies put environmental concerns on the public agenda, this chapter follows the activities of various state agencies, such as the Georgia Water Quality Control Board, before the establishment of the Environmental Protection Agency (EPA) and the Clean Water Act. It therefore illuminates the difficulties that state agencies and commissions had, prior to federal intervention, in compelling cities such as Atlanta to abate water pollution. Furthermore, by examining the new communication and coordination that was created between state and federal bodies, it suggests that state-directed initiatives were the

²⁸ It is important to remember that Atlanta's natural drainage system is rather unique in that the Eastern Continental Divide (ECD) separates the Chattahoochee River and South River watersheds. Rain that falls on the east side of the ECD flows to the Atlantic Ocean via the Ocmulgee River; washings that fall on the ECD's west side enters the Chattahoochee and continues to the Gulf of Mexico. This and the low flow regime of many urban streams has made drainage and sewage disposal in Atlanta difficult.

primary instruments by which the federal government initially advanced a new environmental paradigm.

Chapter Three also makes use of reports, official correspondence, and public statements produced by a wide range of agencies and individuals concerned with water pollution control. Dating as far back as the late-1950s, these records help demonstrate a level of communication on the federal, state, & city level that often goes unnoticed. Among the approximately thirty records groups reviewed at the Georgia State Archives that pertain to water quality, the researcher has focused upon activities and reports of: the Georgia Water Quality Control Council (1959-1971); the Georgia Department of Natural Resources, Environmental Protection Division, Water Quality Control Section; (1972 and beyond); Interstate Conference on Water Problems (1980-1983), and the federal Water Resources Council (1965-1983).

The City of Atlanta's Department of Watershed Management, Wastewater Facilities Design Group, has made available thirty-eight reports, dating back to 1965, on water pollution in metro Atlanta. Of those, eight specifically concern the original intent and subsequent design changes for the Atlanta Three Rivers Project. Similarly, five separate technical studies, published by the Atlanta Regional Commission between 1952 and 1969, focus on the problems of water pollution and convey the importance of sustained coordinated and sustained regional planning.

Water pollution control is also the guiding theme of **Chapter Four**, which focuses attention upon environmental activism that surrounded the city's problematic attempts to reduce the pollution caused by its Combined Sewer Overflows (CSOs) and phosphate discharges. For years, the Atlanta's CSOs released millions of gallons of

sewage, street runoff, and other chemicals into the Chattahoochee and other local waterways during periods of heavy rainfall, racking up millions of dollars in fines. Local activists organized and were joined by state and federal environmental agencies in filing suit to force the city to sign Consent Decrees in order to accelerate court-ordered pollution abatement plans.

This chapter will also broach the subject of environmentalism in a post-civil rights southern city and will engage the literature on the rise of suburbia and racial politics. Although ostensibly a story of persistent and successful activism in the face of environmental degradation, this section examines how issues of race and class became a complicating feature in determining the most appropriate pollution control technology.

Due to the culmination of these events, Chapter Four blends media commentary with primary sources derived from court proceedings as well as City of Atlanta engineering reports and Department of Watershed Management program updates. For example, former Georgia Tech president G. Wayne Clough, who chaired Mayor Shirley Franklin's "Clean Water Advisory Panel," provided a large portion of the primary documents that will inform much of the analysis in Chapter Four. Dr. Clough offered the researcher complete access to the documents, reports, transcripts, and presentations that the panel considered for its CSO Remedial Measures recommendations. This task force not only reviewed various CSO remedial options but also held public hearings in which opponents of the city's environmental policies were given a forum to air grievances and propose alternative solutions

While retaining focus on the role of federal courts as de facto planning instruments, **Chapter Five** returns readers to regional water supply issues that have

become known as the Tri-State Water Wars. As the metro population quickly swelled in the post-war years, Atlanta water providers and the Atlanta Regional Commission worked with the U.S. Army Corps of Engineers to secure greater amounts of water from Buford Dam. In 1989 the Corps recommended that some of the water stored in Lake Lanier for hydropower use be reallocated for water supply. The following year Alabama and Florida filed suit contending that Buford Dam was authorized solely for purposes of hydroelectric power, flood control, and navigation, which prompted a two-decade long legal imbroglio that threatened to reduce metropolitan Atlanta's access to this regulated water supply.

While Chapter Five narrates much of the Tri-State Water Wars through extensive use of Atlanta's major daily newspaper, the *Atlanta Journal-Constitution*, it also delves into the origins of the dispute by using a series of "Regional Water Use Plans" prepared by the Atlanta Regional Commission from 1972-1997. Among other things, these documents show the Commission working collaboratively with the Corps to create a long-term water supply plan to provide adequate water supplies for projected population increases while at the same time unsuccessfully attempting to implement water conservation programs among the local water-providing government. In addition, this chapter relies on the work of legal scholars as well as published court decisions in order to synthesize and explain the various theories, laws, and policies that have animated the inter-state litigation.

The dissertation's **Conclusion** presents a re-evaluation of the historical themes in light of the evidence offered and assesses recent developments toward achieving comprehensive water resource management.

CHAPTER ONE

DRAWING WATER FROM ROCK: WATER RESOURCES AND EARLY SETTLEMENT IN THE ATLANTA REGION

*Human history is not acted out in a vacuum but against the background of an environment in which many sorts of change are always going on.*¹

*Within any human society, the cultural and the physical environments interact, a process that affords man a measure of control over the natural world.*²

During the mid-1880s, Atlanta officials concerned with providing adequate sources of drinking water commissioned an independent contractor to bore an artesian well in the downtown area of the city. Completed in 1884 and reaching a depth of 2,044 feet, this second installation of the municipally owned water supply system was capable of yielding two hundred thousand gallons per day through six-and-a-half miles of distribution pipes. Yet, within three short years the strains of continued population growth and fears of ground water contamination prompted city leaders to abandon the city's well and auxiliary supply source, the South River, for the more plentiful and clearer waters of the Chattahoochee River.³

Although an upstart city of perhaps no more than 30,000 people, Atlanta had nonetheless crossed an environmental threshold that indicated the difficulties of sustaining an expanding population in an area with limited water supplies. This chapter steps back in time to uncover the geological forces that shaped the physical environment

¹ H.H. Lamb, *Climate, History, and the Modern World*. 2nd ed. (London and New York: Routledge, 1995), 6.

² Timothy Silver, *A New Face on the Countryside: Indians, Colonists, and Slaves in the South Atlantic Forests, 1500-1800* (Cambridge and New York: Cambridge University Press, 1990), 33.

³ John Ellis and Stuart Galishoff, "Atlanta's Water Supply: 1865-1918," *The Maryland Historian*. 8 no. 1 (Spring 1977): 8.

upon which Atlanta now rests and offers insights into the ways its earliest settlers conceived of and interacted with the natural environment. For the groups that established communities within this region, water was not simply a matter of biological necessity but also proved to be socially and economically nourishing as well. For instance, Native Americans established settlements along rich alluvial plains and conjured myths about river ways that articulated a highly integrated involvement with the environment. Early white settlers, who generally viewed the natural world in a more hierarchical fashion, utilized natural springs, dug wells, and built cisterns but also devised more sophisticated technologies related to the relative presence or absence of water to address greater economic development and public health issues. In exploring Atlanta's early development, this chapter offers insights into the complex mingling of Atlanta's pre-human landscape with social and economic systems of resource exploitation and provides some context for understanding ensuing difficulties of water resource management.

A BRIEF HISTORY OF ATLANTA'S GEOLOGIC TIME

Operators who drilled the artesian well near downtown Atlanta in 1884 probably cared little about how or why the Piedmont rock they encountered came to be. They simply understood that the municipal supply from the nearby South River was unsatisfactory and that a steam engine could help them secure the requisite amounts of water. But the rocks lying beneath Georgia are like a history book, narrating the timing and events that have led to the geological present. Learning to read that terrestrial alphabet is what the science of geology is all about. The crystalline material that the drill perforated was perhaps more than 500 million years old, dating back to the Proterozoic

Eon when there was but one supercontinent on Earth. Taking time to reflect on the geological forces that created that bedrock enlightens us to why the metro Atlanta area relies so heavily on surface water for its total water needs and how this influenced the early settlers' lives.⁴

The Georgia terrain is the product of a spectacular series of natural developments that were no less brutal in their effects than they were unhurried in their culmination. The Appalachian Mountains and the Piedmont and Coastal Plains provinces that lay within Georgia evolved through a series of accordion-like motions of the Earth's crust that began about 480 million years ago. Over time, oceans opened and closed as massive lithospheric plates crashed together, were pulled apart, or sideswiped one another like cars in a demolition derby. Periodically, the future southeastern portion of North America was overtaken by shallow seas, existed as volcanic islands, and at times displayed towering peaks not unlike the present Himalayan Alps.⁵ As writer John McPhee explains, "The rocks not only had been compressed like a carpet shoved across the floor but in places had been squeezed and shoved until folds tumbled forward into recumbent positions. Some folds had been broken. Some entire regions had been picked up and thrust many miles northwest."⁶

⁴ Georgia Department of Natural Resources, Environmental Protection Division, Georgia Geological Survey, *Georgia's Chattahoochee River: An Overview for the American Institute of Hydrology*. Open File Report prepared by Jon Costello, 2003, 4 (hereafter cited as Costello); Harold Levin. *The Earth Through Time*. 6th ed. (New York: Saunders College Publishing, 1999), 211; The Boston Consulting Group, *Final Report of the Clean Water Initiative*. (2000), i.

⁵ George W. Fisher, ed. *Studies of Appalachian Geology: Central and Southern* (New York: Interscience Publishers, 1971); U.S. Department of the Interior, U.S. Geological Survey, "Geologic Provinces of the United States: Appalachian Highland Provinces," <http://geomaps.wr.usgs.gov/parks/province/appalach.html>; (accessed August 29, 2007); Thomas W. Hodler and Howard A. Schretter. *The Atlas of Georgia* (Athens: University of Georgia Press, 1986), 15.

⁶ John McPhee, *In Suspect Terrain* (New York: Farrar, Straus, & Giroux, 1983), 111.

The plate collisions, faulting, and varying degrees of rock consolidation that they produced have had a profound impact on Georgia's available water resources. Surface water provides approximately 78 percent of the total freshwater used throughout the state. But Georgia's surface hydrology is somewhat unique in that runoff from the Blue Ridge Mountains (situated in Georgia's northeastern corner) and upper Piedmont forms most of the rivers providing that water.⁷ Identifying the headwaters and following the course of Georgia's most important waterway, the Chattahoochee River, provides further insight into the importance of geologic factors.

The crystalline rocks that were thrust skyward during the mountain-building period enjoy higher levels of precipitation. Geologists estimate that, of these sixty or so inches of annual rainfall, only about ten percent is absorbed into the groundwater regime. Driven by gravity, the water seeks pores in which it can move to lower elevations. This infiltrating water confronts the bedrock of the Blue Ridge Mountains, which contains little pore space and has very low permeability. These igneous and metamorphic rocks are broken by cracks, fissures, and faults that allow the water molecules to continue their journey, albeit in much a lower quantity and at a much slower pace. As pressure to find egress builds the water eventually spreads laterally until it intersects land surfaces where erosion or some other disturbance has lowered the topography to the water's level. Canyon springs often serve as these outlets.⁸

⁷ USGS and the Department of the Interior. (2006) *Georgia's Surface Water Resources and Streamflow Monitoring Network*. < pubs.usgs.gov/fs/2006/3084/pdf/fs2006-3084.pdf > (accessed November 5, 2007).

⁸ Costello, "Georgia's Chattahoochee River," 2; Ellwood, *Geology and America's National Park Areas*, 227-8, Georgia Department of Natural Resources, Environmental Protection Division, Georgia Geological Survey. *Power Generation and Related Water Use in Georgia*. Georgia Department of Natural Resources, Report prepared by Julia L. Flanning, 1991; Georgia Department of Natural Resources, Environmental Protection Division, Georgia Geological Survey, *Ground-Water Resources of the South Metropolitan Atlanta Region, Georgia*. Report John S. Clark and Michael F. Peck, 1991, 1.

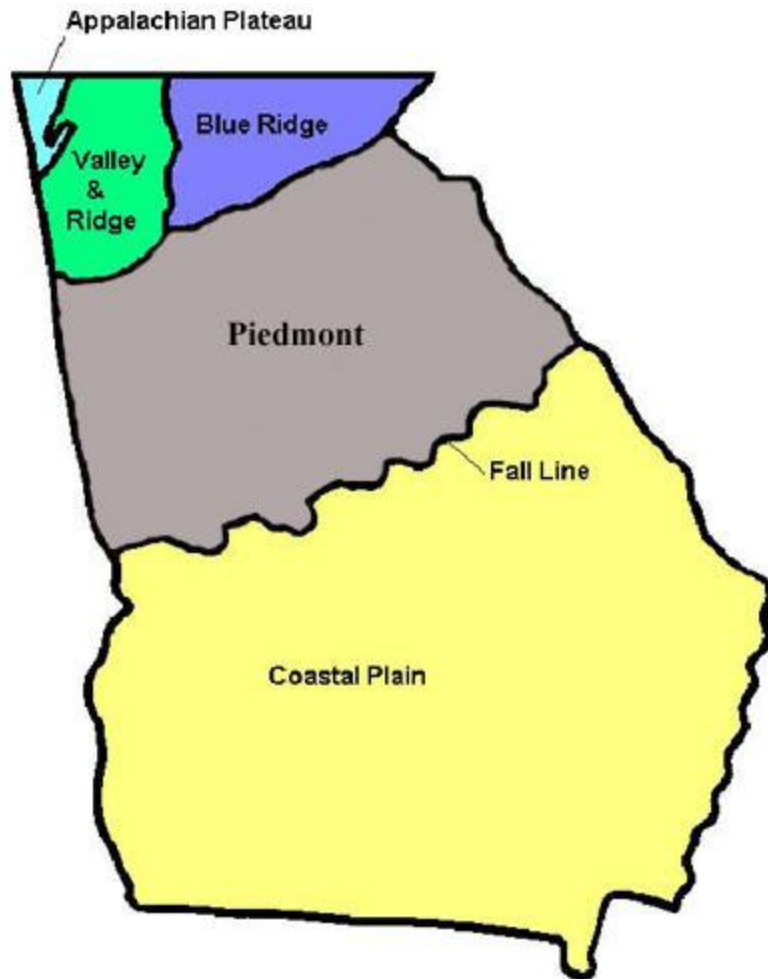


Figure 1.1 – Georgia’s Geologic Provinces. (Source: William J. Frazier, “Georgia Geologic Regions.” *The New Georgia Encyclopedia*, 2006, <http://www.georgiaencyclopedia.org/nge/Multimedia.jsp?id=m-9031> (accessed November 3, 2007))

The Chattahoochee River emerges from such a freshwater spring, no more than two to three inches wide, that is nestled in the rugged mountain terrain of the Blue Ridge. Beginning as a small trickle at about 3,500 feet, the streamlet then plummets at a steep gradient of 230 feet per mile and gains momentum as it merges with other unnamed tributaries and tumbles south through the Nacoochee Valley.⁹ One nineteenth century observer noted the hasty change from headwater to river. “In less than a mile the Chattahoochee develops itself into a rippling rivulet; a few yards further down it makes a branch; next you find it a bold creek, and by the time the bottom of the pass is reached you find your way blocked by a swift little river.”¹⁰

With most of the Blue Ridge in its rear view, it enters the Piedmont at an elevation of nearly 1,700 feet and, just northeast of current Lake Lanier, it glances off an escarpment known as the Brevard Fault. This slip-strike lineament, which is a 400-mile horizontal incision in the Earth’s crust caused by continental rifting, is traditionally considered to be the dividing line between the Blue Ridge and Piedmont provinces. The Brevard Fault’s medium-grade metamorphic rock then provides a 100-mile southwesterly channel for the river’s 540-mile trek.¹¹

Moving along the Brevard corridor, the Chattahoochee gathers the flow of Sope, Vickory, and Rottenwood Creek and rumbles over shoals below that dip 36 degrees to the southeast before calming and integrating the waters of Nancy, Utoy, and Peachtree

⁹ Costello, 3; Fred Brown and Sherri M.L. Smith, *The Riverkeeper’s Guide to the Chattahoochee* (Atlanta: C.I. Publishing, 1994), 9.

¹⁰ Lynn Willoughby, *Flowing Through Time: The History of the Lower Chattahoochee River* (Tuscaloosa: University of Alabama Press, 1999), 2.

¹¹ John Rodgers, *The Tectonics of the Appalachians* (New York: John Wiley & Sons, Inc, 1970), 183.

Creek. After passing the northeasterly reaches of Atlanta, the “Hooch” encounters weakness in the Brevard geography and, like a point guard penetrating the lane through the holes of a zone defense, it breaks south to deliver its goods into the Gulf of Mexico. Free of the escarpment, the river flows through rolling Piedmont hills that gradually decrease in elevation. Although the river becomes accordingly less energetic as its average gradient drops to about 25 feet per square mile, it nonetheless maintains a generally narrow floodplain due to the influence of resistant and well-jointed bedrock.¹²

Progressing toward the Coastal Plain and Florida, the river approaches another relic of the ancient geological past: the Fall Line, a jagged, 20-mile wide geographic barrier that divides the crystalline rocks of the Piedmont from the largely unconsolidated sedimentary rocks of the Coastal Plain. The Fall Line’s significance is threefold. First, the Piedmont’s crystalline rocks expose shoals and falls that represent a blockage to upstream navigation, a fact that would make railroad travel above the line increasingly attractive during the nineteenth century. The name was given to this area, which extends from Columbus to Augusta, Georgia, by early settlers who traveled by river from the coast to frontier areas of the north and west. Because waterways were a major source of commercial transportation during this period, cities such as Columbus, Macon, and Augusta were located near the termination of upstream traffic.

Second, the porous sediment found south of the Fall Line allows for aquifers that are far more productive than those above, which somewhat reduces the Coastal Plain’s reliance on surface water. The Floridan Aquifer, for example, is composed of a thick sequence of Tertiary carbonate rocks that are hydraulically connected in varying degrees.

¹² Costello, 3.

In water table aquifers such as these, water may move readily from surface sources such as rivers and streams to ground water and vice-versa.

Last, as the Chattahoochee enters the Coastal Plain it slows considerably and widens because its course is no longer directed by rigid bedrock. Loosened from its geologic shackles, the river then spreads out across a wider floodplain. This alluvial fan laid down by the Chattahoochee would prove attractive to both Native Americans tribes and later European settlers attempting to impose a “second” nature atop the pre-historic landscape they encountered.

NATIVE TERRITORY

The Native American and whites that settled along the Chattahoochee River found a natural environment brimming with potential. Over time, as population densities increased, both groups showed distinct patterns of engaging the landscape for their own ends.

As European settlers increasingly spilled into the interior of Georgia after the mid-sixteenth century, they encountered what ethno-historian Charles Hudson has labeled “the richest culture of any of the native people north of Mexico.”¹³ Scattered along the alluvial plains of numerous rivers and streams, these Native Americans had developed a large system of towns and satellite villages that combined farming with hunting and gathering. In addition, these tribes were organized into complex political units that convened regularly to both perform elaborate ceremonies and conduct trade.

An indigenous social organization of this type was obviously centuries in the making. Anthropologists and archaeologists explain that during the last Ice Age, between

¹³ Charles Hudson, *The Southeastern Indians* (Knoxville: The University of Tennessee Press, 1976), 3. Many scholars of southeastern tribes consider Hudson’s research on the social organization of historic tribes such as the Creeks and the Cherokees to be an authoritative account.

25,000 to 14,000 years ago, lowered sea levels exposed a strip of land, the so-called Bering Land Bridge, which connected Siberia to Alaska. With much of the earth's water detained, humans and animals were able to cross into North America. No one is sure of the direction taken or level of interaction among these early American immigrants, whether they washed over like a human tidal wave or moved cautiously in a slow trickle.¹⁴

Although the details of the migration remain uncertain, as do the quotidian practices and beliefs of these pre-historic migrants, experts are reasonably certain that small bands of hunters and gatherers followed their Pleistocene quarry into the Chattahoochee River Valley roughly 11,000 years ago. There they found within the valleys and ridges a natural landscape that provided a means of survival for those with the capacity for adaptation. Hunters utilized local sources of flint, chert, and quartz to make fluted or "Clovis" spears for hunting large prey such as wholly mammoths, American mastodons, and giant sloths, which were attracted to the Piedmont's rolling, evergreen-covered hills. When temperatures finally rose, and the deciduous forests began to crowd out the conifers, foraging groups were then able to search the forest floors during the fall season for nuts. Enterprising Indians similarly modified their hunting strategies and began to manufacture smaller, lighter weapons to kill the rabbits, squirrels, and white-tail deer that had replaced those Pleistocene mammals that became extinct.¹⁵

Rivers proved to be an important feature of the landscape as well. Anthropologist Max White points out that many known Paleoindian (11,000 - 8,000 B.C.E.) sites in

¹⁴ Theda Perdue and Michael D. Green. *The Columbia Guide to the American Indians of the Southeast* (New York: Columbia University Press, 2001), 20-21.

¹⁵ Max E. White, *The Archaeology and History of the Native Georgia Tribes* (Gainesville: The University of Florida Press, 2002), 9-11.

Georgia were located on hilltops or ridges overlooking valleys or stream confluences, ideal vantage points for spotting game or studying their movements. In areas with no hills, Paleoindian sites lie near shoals or at other locations where game trails crossed the river. These sites yield the characteristic fluted points, scrappers, choppers, and other tools associated with butchering and processing and are thus believed to be short-term hunting stations, as opposed to long-term settlement sites, which would not appear for another 7,000 to 8,000 years.

The significance of shoals and low-river crossings are also evidenced in the large number of shell deposits found on river banks during the Middle Archaic period (8,000-1,000 B.C.E.). Archaeologists believe that the warmer and drier conditions that prevailed during the Altithermal period meant lower water levels throughout the regions, thereby allowing hunters and gatherers to wade into the shallows to collect freshwater mussels. As they discarded the shells after their meals, large deposits formed over the years. Experts caution, however, that freshwater mussels remained a seasonal food and that large accumulations are not necessarily indicative of permanent settlement patterns.¹⁶

The Chattahoochee waters served as a natural trail marker for overland travel as well. As historian Lynn Willoughby states: This was the logical way to travel” because “trails shadowed the river on both banks and also paralleled its tributaries. Travelers knew that any path that followed a creek downstream led to the river.” Upstream headwaters were never far from adjacent river systems, which meant that short trails connected one waterway to another.¹⁷

¹⁶ Ibid, 11, 31.

¹⁷ Willoughby, *Flowing Through Time*, 5.

Finally, rivers and streams also provided the means to better communication and trade between distant tribes. By around 4,000 B.C.E., Indians had begun to clear trees with stone axes to make dugout canoes in order to transport loads too heavy to carry on foot. Woodland Indians (1,000 B.C.E.-1,000 C.E.) of the Chattahoochee Basin began to develop extensive trade routes by riding their canoes downstream to the Gulf of Mexico and then paddling to the mouths of other rivers to exchange local items, such as their own increasingly stylized pottery, for other exotic materials like marine shells and salt from the coast and copper from the eastern Tennessee region.¹⁸

Not only were rivers a conduit for trade, but they also facilitated the sharing of a culture and spiritual belief system. Archaeologists maintain that sometime shortly after the beginning of the first century, the Woodland Indians became greatly influenced by groups in the Ohio River Valley that erected burial mounds. No one knows the precise meaning attached to the earthworks erected by either tradition or how the information and techniques used were passed, but it is clear that river travel assisted the transference of ideas across space and diverse peoples.¹⁹

Whereas the evidence from the Paleoindian and Archaic periods suggests that these groups existed as small, nomadic bands of hunters and gatherers that migrated to and from seasonal sites, the Woodland (1000 B.C.E.-1000 C.E.) and Mississippian (1000-1500 C.E.) cultures established more permanent settlements. Charles Hudson writes, “It was during the Woodland tradition that the Indians first show a decided preference for living near the flood plains of rivers. It was in the flood plains that all of

¹⁸ Willoughby, *Flowing Through Time*, 5; White. *The Archaeology and History of the Native Georgia Tribes*, 48.

¹⁹ White, 47-50.

these native seed-bearing plants thrived.” A village site excavated southwest of Atlanta along the Chattahoochee confirms that this sort of environmental exploitation was taking place as early as 200 B.C.E. Archaeologists have identified remains of fish, turtles, and birds as well as various seeds and nuts that have been scraped from the dirt floors of these dwelling structures. Such evidence reveals that the environment around the Chattahoochee was so rich in natural foods at this time that settled life was possible without agriculture.²⁰

Alluvial floodplains became increasingly important during the Mississippian period as agriculture began to take root among the native peoples. As Charles Hudson explains, “One characteristic of Mississippian sites was that they were invariably built near the courses or old channels of rivers and streams where the best soil for their kind of agriculture was found.”²¹ Corn, squash, and beans were planted in these areas using digging sticks and short-handled hoes with chipped flint blades or animal bones. This increased reliance on domesticated plants provided the economic base for the formation of sizable towns characterized by large, flat-topped mound complexes, which served as centers of regional political, ceremonial, and trade systems.

These population centers, such as the Etowah settlement found north of Atlanta, were encircled and supplied by a group of smaller satellite villages located along the floodplains. But as authors Martin Gerdes and Scott Messer note, “while the adaptation of agricultural practices allowed for the land to support greater populations, greater

²⁰ Hudson, 62; White, 54.

²¹ Hudson, 78.

populations in turn created greater demand for arable land.”²² As a result, warfare ensued as competing tribes fought for control of lands suitable for cultivation. By the time Hernando de Soto’s *entradas* arrived in the 1540s, Mississippian culture had experienced a significant decline, with some large mound centers like the Ocmulgee’s in central Georgia, completely abandoned.

European entry into Georgia marks the beginning of a painful adjustment period for Native Americans and the virtual end of the pre-historic tribes in Georgia. Although demographic changes were taking place before contact with European explorers, it pales in comparison to the massive depopulation that occurred after the mid-sixteenth century. Not only did warfare between Europeans and Native Americans take their toll, but lack of immunity to diseases carried by the Europeans decimated the extant population.²³

Even as Native tribes burned with fever, political reorganization among the tribes continued. The Spanish, who by this time showed little desire to spread beyond the Florida peninsula and were satisfied to conduct trade through intermediaries, kept their distance. Nonetheless, by the time the French and English began to scurry through the Georgia interior in the late seventeenth century, the early tribes had either moved to other areas or were amalgamated into other tribes, even despite significant language barriers. Some have suggested that, in addition to farming techniques, religious beliefs, and kinship systems, the hierarchical structure of the Natchez, Creek, and other Southeastern

²² U.S. Department of Interior, National Park Service, *Chattahoochee River National Recreational Area Historic Research Guide*, by Martin Gerdes and Scott Messer, National Parks Service (Washington, 1998), 8 (hereafter cited as Gerdes and Messer).; Hudson, 78.

²³ There are great discrepancies among the figures offered by scholars concerning the scope of depopulation. Much of this arises from the fact that obtaining aboriginal population figures is difficult. For a summary of the problems involved in population and depopulation, see Russell Thornton, *American Indian Holocaust and Survival: A Population History Since 1492* (Norman: University of Oklahoma Press, 1987).

Indian governments was probably derived from the Mississippian, but there is yet no conclusive archaeological or anthropological evidence to confirm linkages between pre-historic traditions and historic cultures.²⁴

Scholars have, however, thoroughly explored Creek and Cherokee culture and cosmologies. Indeed, a great deal of literature exists that examines the different ways in which Native Americans and Europeans conceived of their respective places in the world. Summarizing much of this literature, Theda Perdue and Michael Green argue, “Native Southerners did not envision a hierarchical world, like Europeans did, in which man had dominion over the rest of creation.” As evidence, they submit the Indian conception of a three-tiered cosmos consisting of the Upper World, Under World and This World. The first was the domain of the past and predictability, and fire was its earthly representative. In contrast, water was associated with the Under World, which represented the future and change. This World, the domain of human beings, mediated between the two and humans were responsible for ensuring balance. Consequently, these Indian groups never put out fire with water; they used the soil of “This World” instead. Such a belief structure leads the authors to conclude that “maintaining the purity of discreet categories, preventing or repairing the pollution of those categories, and balancing opposites formed the core of Southeastern Indian religious belief and practice.”²⁵

Offering direct comparisons between the descendants of Indians and Europeans, author William Winn states it more directly: “Perhaps the difference between Christianity and the beliefs of the Creeks and other Indians in the Southeast had to do with how the

²⁴ Gerdes and Messer, *Chattahoochee River Guide*, 10; Perdue and Green, *The Columbia Guide to the American Indians of the Southeast*, 43, 186.

²⁵ *Ibid*, 45.

Indians related to the natural world. Not only did the early people of the region venerate the sun and moon and other natural, inanimate objects—the wind, for example—but they also saw humankind as no more important than the other elements in creation. In the far more anthropomorphic belief system of the Europeans, humankind was said to be simultaneously created in God’s image and doomed to spiritual inadequacy.”²⁶

Within the Creek conception of the universe, there were spirits in the water, animals, and rocks and the Creeks made sense of their lives by explaining it in terms of the spirit world. Nothing was random. If a hunter lost a knife, a spirit must have taken it; if one became ill, he or she had probably offended a particular spirit.

Accordingly, for those Creek Indians living on or near the Chattahoochee, the river was not simply a waterway or big stream, but was, as Lynn Willoughby contends, “a spiritual conduit.” Snakes, otters, and beaver swam in the Chattahoochee, all linking the physical and spiritual worlds. The river was home to the fish that provided sustenance. But it was also a means of travel and recreation. And all these elements required that reverence be outwardly displayed: every able-bodied man, woman, and child was expected, in both summer and winter, to enter the river and plunge four times beneath its surface in a daily bathing ritual that perhaps suggested the idea that “similarity in appearance equaled similarity in nature.”²⁷

Rivers, which were called the “Long Man” or “Long Snake,” were also featured prominently in the Cherokee spirit world. The head of the snake was thought to be in the mountains and his tail in the lowlands. The river was associated with the moon, and on

²⁶ William Winn. *The Old Beloved Path: Daily Life Among the Indians of the Chattahoochee River Valley* (Columbus: The Historic Chattahoochee Museum and the Columbus Museum, 1992), 161.

²⁷ Willoughby, 16-17; Winn, 163.

every new moon, including those in winter, the Cherokees used to go to the bank of the river where a priest officiated and everybody, much like in the Creek tradition, jumped in. This observance was thought to ensure long life, implying that the snake, which annually shed its skin, was associated with longevity. Usually this ritual took place at the head of a river where they could face upstream toward the rising sun, for just as fire could be offended, so could water.²⁸

And though Winn viewed such practices as indication that Native Americans were “the greatest naturalists the Valley has ever known,” there is ample evidence to suggest that Indians did not always completely “live in harmony with nature.”²⁹ Charles Hudson asserts that just the opposite may be true, particularly when Native Americans used exhaustive slash-and-burn techniques to stimulate deer populations. “The Indians” he writes, “actually modified the forest cover far out of proportion to their numbers.”³⁰ Similarly, both contemporary observers and later historians have written about the corralling of bison over cliffs in the American Plains and the over-hunting and wastefulness with respect to deer in the mid-Atlantic.³¹

It should come as no surprise then that Indians actively engaged in modifying their environment. The question, rather, is the extent to which their activities disrupted their ability to acquire future supplies. There is little evidence to imply that the Cherokee Indians, who settled along the upper Chattahoochee and constructed weirs to capture and

²⁸ Hudson, 172-3.

²⁹ Winn, 48.

³⁰ Hudson, 19.

³¹ For examples of such Indian practices, see Karen Kupperman, *Settling with the Indians: The Meeting of English and Indian Cultures in America, 1580-1640* (Totowa, NJ: Rowman and Littlefield, 1980), 80-91, 102-103; Dan Flores, “Bison Ecology and Bison Diplomacy,” *Journal of American History* 78:2 (1991): 465-485.

utilize various poisons to tranquilize fish during the late eighteenth and early nineteenth century, squandered the river's natural resources. In contrast with their slash-and-burn practices, which could allow fires to burn uncontrollably, Indians appear to have limited themselves to catching only the amount of fish that they could readily process and store. There are several reasons for this. The first is cultural. As Charles Hudson explains, despite their techniques to acquire freshwater fish, the Cherokees showed a marked ambivalence toward it as a food source. The idea of decayed fish, he argues, revolted them, and a dream of decayed fish was considered a nightmare portending evil.

Additionally, there were environmental factors that were interlaced with the cultural. As previously mentioned, the Chattahoochee River Valley offered a wide array of natural resources for the Southeastern Indians to exploit. Although these tribes lived in an area that contained some of the most abundant salt and fresh water fishing spots in North America, they were just as reliant on hunting plentiful game and agricultural produce. Therefore, their food supply remained diversified and no particular source was over-exploited. Furthermore, their sustenance patterns were dictated by the seasons and they migrated between cold and warm weather settlements. In the late summers, as fish began to spawn, younger male Indians often camped near the Fall Line or shoals while the women, the elderly, and children collected wild vegetables, berries, and nuts. In spring months, corn, beans, and squash were planted in the narrow valleys or wider flood plains and harvested in autumn. Winter months, in contrast, were generally dedicated to hunting large game.³²

³² Hudson, 216, 272-309; Gerdes and Messer, 69-71; Timothy Silver. *A New Face on the Countryside: Indians, Colonists, and Slaves in South Atlantic Forests, 1500-1800* (Cambridge: Cambridge University Press, 1990), 51-56, 88-89.

MAKING “SECOND NATURE”

The Southeastern Indians’ semi-permanent habitation patterns and “balanced” belief system stands in stark contrast to the hierarchical belief structure and geographically expansive yet sedentary settlements of European and American settlers. European cultural concepts were largely derived from Biblical interpretations and perhaps none was more important to New World settlers than the instruction to “replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth.” This ostensible duty to control nature had consequences for both the landscape and Native Americans.³³

Culturally pre-disposed to “subdue” the land and to view themselves atop the social pecking order, early white settlers misunderstood that hunting and gathering required both mobility as well as sparse possessions and therefore often looked suspiciously upon the natives. Describing the reaction of New England colonists to Indians’ spartan lifestyle, historian William Cronon offers a possible scenario of what Georgia settlers may have imagined as they encountered the Creeks and Cherokees: “A people who moved so much and worked so little did not deserve to lay claim to the land they inhabited. Their failure to ‘improve’ that land was a token not of their chosen way of life but of laziness.” Despite the fact that white settlers readily adopted effective Indian agricultural and hunting techniques and realized that they now inhabited a landscape that had been previously transformed by native activity, they judged Native Americans as indolent, and this perception became a justification for white territorial acquisition.³⁴

³³ Genesis 1:28-29, 9:3.

³⁴ William Cronon. *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York: Hill and Wang, 1983), 55; Silver, *A New Face on the Countryside*, 65, 147.

But, as both Cronon and Timothy Silver point out, future land grabs undertaken by whites must also be understood within the context of differing conceptions of “property” rights and an expanding world market. Cronon argues that although Native American families recognized exclusive hunting and fishing rights on respective tribal lands, they did not envision these areas as permanent possessions. Instead, what they exchanged were usufruct rights, or acknowledgements by one group that another might use an area for planting, hunting, or gathering. As he explains, “what Indians perceived as political negotiations between two sovereign groups the English perceived as an economic transaction wholly within an English jurisdiction.”³⁵

Concurring with Cronon, Silver contends that “what made the native system different was that it did not encourage the continuous stockpiling of goods or money. Indeed, the Indian economy stressed almost completely opposite values: day-to-day subsistence and generosity.” This was in direct contrast to the European market model, which “was an economy that stressed the importance of private property, profit, and virtually unrestricted accumulation of goods. It was, in a word, capitalistic.”³⁶

The founding of English settlements in the Carolinas after 1670 prompted the creation of more persistent trade relations with interior tribes than those intermittent contacts established by the Spanish. Much of this new trade was concerned with obtaining furs, and, in some cases, Indian slaves. But as English traders made inroads into Georgia, they stumbled across tribal boundaries that were increasingly in flux, due in large part to tribal consolidations that followed the onset of epidemics initiated by Spanish explorers. During this period, the Creeks, a loose confederation of tribes that

³⁵ Cronon, *Changes in the Land*, 61-68.

³⁶ Silver, 192, 189.

numerous scholars believe absorbed many of the formerly displaced Indians, came under pressure as the Cherokees gradually expanded south into the Appalachians. A series of conflicts ensued between these tribes throughout the seventeenth century, with Creeks ultimately ceding much of the highlands and settling in the Coastal Plain by the early eighteenth century. As a result, the Chattahoochee River as it flowed through the Piedmont effectively became a buffer zone between the tribes where each retained hunting rights.³⁷

White settlers poured into the Georgia Piedmont in the decades following the close of the American Revolution. This was due in no small part to the invention of the cotton gin in 1793, which ensured that the short-fibered variety of cotton, which had been cultivated in small amounts along the coastal areas, could be produced in large-scale quantities on inland farms and potentially used as an export crop. But in 1800 most of the area that is now metropolitan Atlanta technically remained as Indian territory because Georgia's federally approved western boundary extended no farther than the Oconee River, roughly fifty miles east of present-day Macon, Georgia. Sensing the need to spread economic opportunity to poor whites through a series of land lotteries, the state of Georgia entered into agreement with the U.S. government in 1802 to extend Georgia's

³⁷ Ibid, 67-83; Gerdes and Messer, 9. The exact reasoning for Indians using the Chattahoochee River as a boundary is uncertain. Silver writes that "for several millennia before Europeans thought about making imperial claims, Indians had lived and traveled widely along the Atlantic seaboard, more concerned with boundaries of villages, fields, and hunting territories than with prominent rivers, swamps, and mountains." (Silver, 5). Such a description does not take into account the fact that rivers provided an obvious physical demarcation as well as the literature that demonstrates the importance of rivers in supplying fertile lands and harboring plentiful game. The most likely explanation is that the Cherokees and Creeks both settled well to the north and south of the river for these reasons and only occasionally ventured into what was mutually recognized as a potentially disputed ecological and political territory.

boundaries to the east bank of the Chattahoochee River in exchange for the termination of all Indian land titles remaining within the state.³⁸

Creeks and Cherokees were left to choose between two unsavory alternatives: fight back or accommodate. The Creeks were of two minds. Hemmed in by white encroachment, some decided to remove themselves to lands west of the Mississippi River while some decided to resist and make allegiances with the British during the War of 1812.

The Creek decision to join with the British not only led to their eventual removal from the area, but also provided the context for the first white settlements in the area. In 1813, Georgia soldiers were dispatched to establish forts to protect interior white settlements as well as supply lines for General Andrew. Indeed, it was Andrew who led the decisive campaign against the Creeks in Alabama, in part by utilizing old Indian trails and trading villages situated along the Chattahoochee River's eastern flank. The Peachtree Trail, which would later become one of Atlanta's most famous streets, sat atop the ridges that make up the Eastern Continental Divide, which extends from the Appalachians down through the heart of present-day Atlanta. Fort Daniel, the first garrison to be constructed, was located at the northern end of the trail near Old Suwanee Town at Hog Mountain, in what is now Gwinnett County. The second garrison, Fort Peachtree, was established on a high hilltop at the confluence of Peachtree Creek and the Chattahoochee River at the terminus of a path that splintered west from the Peachtree

³⁸ Frederick Beck Gates. "Building the 'Empire State of the South:' The Political Economy of Georgia, 1800-1860" Ph.D diss., University of Georgia (2001), 1-18. Gates argues that antebellum Georgia was dominated by the defense of slavery and that, in order to preserve a socio-economic situation that benefited all whites, the political economy of Georgia developed in three distinct phases: distribution of land, consolidation of improved transportation, and diversification through manufacturing. For a brief summary of Indians treaties and land cessions with the state of Georgia between 1733 and 1821, see Franklin M. Garrett. *Atlanta and Environs: A Chronicle of Its People and Events*, vol. 1. (Athens: University of Georgia Press, 1954), 1-6.

Trail. Standing Peachtree, as it was originally known, was once a point of entry into the Creek territory and served as a well-known center for white and Indian trade. Abandoned by the Creeks prior to the beginning of the nineteenth century, it was later designated as a post office in 1825 before being renamed to Montgomery's Ferry in 1837, some ten years after all Creek lands had been officially ceded to Georgia.³⁹

Unlike the Creeks, the Cherokees occupied the northwest corner of Georgia near the Etowah River and were not in the direct line of white encroachment. Enjoying long-standing trade alliances with both the English and the Americans, the Cherokees began to adopt an agriculturally-based economy, engage in the African slave trade, and even assist on the removal of the Creeks.⁴⁰ Their proclivity to become "civilized," even as they retained much of their cultural heritage, made the Cherokees the subject of great fascination among Georgia's frontiersmen. Composed in the early twentieth century, Sarah Huff's handwritten manuscript for the autobiographical *My Eighty Years in Atlanta* illustrates how exotic many whites found their Cherokee neighbors to be:

When I was a child I was always interested when Indians were mentioned by old neighbors, who often came to spend the day and 'sit til' bedtime with my father and mother. I have heard them tell of the Hightower Trail. Shallow Ford, a few miles up on the Chattahoochee River, was where the happy warriors and their straddle-riding squaws, would jump their Indian ponies into the swiftly-flowing

³⁹While obviously settled as a strategic location for travel and trade, the origins of the name Standing Peachtree are shrouded in myth. Some argue that the name evolved from a large peach tree that grew atop a large earthen mound in the area. Others, however, have noted that peach trees are not indigenous to the Piedmont and contend that it is a corrupted derivation from Standing "Pitch Tree," a name given because Indians were said to have blazed the trunk of a prominent pine tree to obtain resin or pitch. William Baily Williford, *Peachtree Street, Atlanta* (Athens: University of Georgia Press, 1962), 1-3; Garrett, *Atlanta and Environs*, 8-9.

⁴⁰ U.S. Department of the Interior, National Park Service, *Historic Research Study: Chattahoochee River National Recreational Area and the Chattahoochee River Corridor*, by Lenard E. Brown, National Park Service, 11-24 (Washington, 1980; Gerdes and Messer, 14.

stream, and yelling at the top of their voices, which were not meant for anything but a big show-off . . .⁴¹

But the Cherokee's rugged charm and accommodation to capitalist market ideology did not prevent whites Georgians from seizing their land. When gold was discovered in the Blue Ridge provinces in the late 1820s, Georgia politicians redoubled their efforts to have the last remaining Indians removed from the state. In 1827, newly-elected Governor John Forsyth and the Georgia legislature claimed jurisdiction over all Cherokee Nation lands and invalidated Cherokee law, thus prompting a three-way legal battle between the Georgia, the Cherokee Nation, and the federal government. Determined to solidify its claim before questions of sovereignty could be decided in the courts, the state organized northwestern Georgia into Cherokee County, even as the Supreme Court decided in 1832 (*Worcester v. Georgia*) that the Constitution vested the federal government with sole authority in Indian affairs.

Undeterred by the federal decision, the Georgia legislature proceeded with its plans to distribute Cherokee lands to white settlers. It was also aided in this endeavor when President Jackson, manifesting his latent hostility toward Native Americans and fearing political retribution, refused to enforce the Supreme Court verdict. Realizing the days of the Cherokee Nation were numbered, a tribal faction negotiated the Treaty of New Echota in 1838, which ceded all remaining Cherokee lands in Georgia in exchange for five million dollars and access to lands west of the Mississippi in present-day Oklahoma. In May 1838, at least 13,000 Cherokees were rounded up in Georgia, Alabama, Tennessee, and North Carolina by the federal government. Forced to travel

⁴¹ Sarah Huff, manuscript for *My Eighty Years in Atlanta*, p. 3-4, (n.d.), Sarah Huff Collection, MSS 120.1 Box 1, Folder 13, Kenan Research Center, Atlanta History Center.

along the infamous “Trail of Tears,” an estimated 5000 Cherokee died from cold, starvation, and disease. As a result of this forced exodus, North Georgia lands were officially opened for business.⁴²

Roswell King was among those who ventured into the lands beyond the Chattahoochee in search of gold. Sent by the Bank of Darien in 1830 to investigate commercial possibilities in North Georgia, King later opened and operated two gold mines in Dahlonega during the mid-1830s. By 1838 he had convinced several families seeking a cool retreat from the heat and sickness of the coastal summers to relocate to an area above the west bank of the Chattahoochee River, about twenty miles north of present-day Atlanta. “The colony” they settled is now known as Roswell.⁴³

During his numerous travels between Darien and Dahlonega, King crossed not only one of Georgia’s first cotton mills near Augusta, but also Vickory Creek, a nearby tributary whose falls dropped quickly before entering into the Chattahoochee.⁴⁴ A New Englander by birth and a southern businessman by profession, King quickly realized that wealth could be summoned not only from the gold veins buried within the Blue Ridge but also from the Piedmont’s fertile lands and flowing waters.

Several cotton-related technologies would make that dream a reality. The first was the cotton gin. By 1801, not ten years after its invention, cotton production had soared in Georgia, increasing by a staggering 1900 percent, from approximately 1,250 bales

⁴² Gerdes and Messer, 14-15; Perdue and Green, 94-96.

⁴³ Richard Coleman, “A Short History of the Roswell Manufacturing Company of Roswell, Georgia, Home of ‘Roswell Grey’” (Roswell GA: by the author, 1982), 1-2; Henry Merrell, *The Autobiography of Henry Merrell: Industrial Missionary to the South*. ed. James L. Skinner III (Athens: University of Georgia Press, 1991), 129.

⁴⁴ Vickory Creek drops approximately 110 feet in a mile-and-a-half stretch before meeting the Chattahoochee. Gerdes and Messer, 29.

produced annually to 25,000. This figure increased to 220,000 by 1833, with much of the production taking place on coastal plantations where it was then sold to cotton agents from Philadelphia and Boston.⁴⁵

Surveying the undeveloped waters of Vickory Creek, King saw an opportunity to harness its energy and bring the mechanized textile industry into the Georgia Piedmont. After building a small saw mill with the aid of his son Barrington King and forty or so African slaves, he summarily commissioned Thomas Rogers, a mechanic from Paterson, New Jersey, to design a vertically integrated mill similar to those being used throughout the Northeast. He shortly thereafter hired upstate New Yorker Henry Merrell, a machinist trained in textile manufacturing, to transport the machinery to Roswell and oversee mill operations.⁴⁶

Like Massachusetts-style firms, King planned to build a vertically integrated mill where both spinning and weaving would be performed to produce finished cotton cloth. But unlike these large enterprises, he followed the rural Rhode Island model and constructed a small-scale mill that employed local families rather than the legions of female workers used by the Lowell mills.⁴⁷ Recent demographic changes made this feasible. Census records show that by 1833, over fifteen hundred whites lived in Cobb County, where the village of Roswell was located at the time. Many of these people had

⁴⁵ Frederick Beck Gates. "Building the 'Empire State of the South,'" 97.

⁴⁶ For a description of King's general plans, see *The Autobiography of Henry Merrell*, 3-9, 135; Richard Coleman, "A Short History of the Roswell Manufacturing Company," 2.

⁴⁷ Henry Merrell's insurance application, dated February 1940, makes clear that weaving was to be integrated into the mill. He writes, "The first story is designated for the weaving room and & also contains no machinery but the regulator. Second story is the Spinning Room. Third story the Carding rooms and Picking & the attic intended for mules is yet empty of machinery." For a discussion of differences between Waltham and Rhode Island-type labor organization, see Peter Temin, "Product Quality and Vertical Integration in the Early Cotton Textile Industry," *The Journal of Economic History* Vol. 48, No. 4 (1988), 4-11.

moved to the area in search of gold, but others were yeoman farmers looking to grow cotton on cheap arable land made available by the state's land lotteries.⁴⁸ For King and his investors, this was a perfect marriage of economics, technology, and geography: local farmers could grow cotton that could then be processed in the water-powered mill and sold back to them as finished cloth. Henceforth, the production and manufacturing of cotton could be tightly coupled in the Piedmont.⁴⁹

Chartered in December 1839 and capitalized at \$45,000, the Roswell Manufacturing Company was one of only nineteen cotton or woolen factories operating in the state. The largest in North Georgia, its location and the materials used in its construction reflected its relationship to the Piedmont's particular geographical setting. Operations were housed in a brick building that was three and one-half stories high and measured 48 by 88 feet. A hewn granite basement served as the solid foundation, which was necessary to not only uphold the massive weight of the walls but also because the mill was constructed on the slope of a steep hill overlooking the north bank of Vickory Creek's narrow floodplain. A thirty-foot high dam, made of logs, mud, and rocks and located some 400 yards from the main building was used to impound the creek and create a millpond. Water escaping the dam and accelerating over exposed shoals was then redirected through a flume to rotate an undershot water wheel before being expelled back into the creek via a tailrace. The energy captured by the waterwheel was then transferred

⁴⁸ Housing was eventually built on a four acre area known as "Factory Hill" for workers to rent. Jeffery Gardner et al. *Reconnaissance Survey, Archeological Testing, and Intensive Mapping of the Historic Roswell Mill (9FU205), Fulton County, Georgia*. Brockington and Associates, Inc. Atlanta (2003), 12; For census records of Cobb County, see *Merrell*, 457 n3.

⁴⁹ Records indicate that local planters such as Archibald Smith and Amariah Hembree probably furnished much of the cotton for the factory. By 1840, Smith, one of Roswell's original settlers, owned 33 slaves; kept a large cotton warehouse; and seems to have been one of the northernmost cotton planters in Georgia. Gardner, *Reconnaissance Survey*, 12.

to series of shafts, gears, and bevels, which in turn drove the lathes, drills, and other connected machinery.⁵⁰

Census and financial records indicate that in 1840, under Merrell's direction, the factory ran 480 spindles with 28 employees and produced about \$6,000 worth of goods. By 1849, operations had increased to the point that 3500 spindles and 40 looms were being used to produce 1,200 bundles of yarn per week and 1,100 yards of shirting per day. Poor transportation routes, however, limited the markets of those scattered production facilities, like John Woodall's gristmill and Wofford's sawmill, that used the region's waterpower to provide the staples of agricultural life. Henry Merrell commented that, despite the Roswell firm's steady growth, un-navigable water courses above the Fall Line only allowed for "wagon-trade" over rugged country roads that rarely stretched beyond a twenty-five mile radius.⁵¹

Most of these roads were simple improvements on the prehistoric trails that existed on ridge tops that were oriented toward fords or shoals in the region's many rivers and streams. One important path, that which ultimately became Peachtree Road and Peachtree Street, has been previously discussed. Another was the Hightower Trail, an Indian trading path that ran from the vicinity of the Etowah complex in northwest Georgia, down through present-day Decatur and on east to Augusta, Georgia, on the Savannah River. The trail crossed the Chattahoochee at Shallow Ford, near what is now Roswell, and served as a major river crossing during low water periods.

⁵⁰ Merrell, 128,130; Karen G. Wood. *An Archeological Survey of the Presumed Location of the First Roswell Factory*. Southeastern Archaeological Services, Inc. Athens (1989), 1,7; For a description of the machinery involved in spinning and weaving, as well as generating power to those devices, see Anthony F.C. Wallace, *Rockdale: The Growth of an American Village in the early Industrial Revolution* (New York: W.W. Norton, 1978), 124-147.

⁵¹ Merrell writes that "at best" this trade extended one hundred miles to the north. Merrell, 159.

During the early 1820s, the Inferior Courts of the area's newly organized counties were charged with the responsibility of maintaining proper roads between the various county seats. Although natural fords were fairly common, the vagaries of weather made them unreliable as trade and commercial routes. As a result, the Inferior Courts began to authorize the right to establish ferry crossings where the newly cleared roads intersected streams and rivers.

One of the earliest authorizations recorded, that of Martin's Ferry near Vickory Creek, was granted by the DeKalb County Inferior Court in 1829:

On application order that Rubin Martin be authorized to establish a ferry on the Chattahoochee River above the Shallow Ford at place now known as Martin's Ferry and be allowed to charge the following rates as toll: for every road wagon loaded crossing .62; empty .50; cart or two horse wagon .37; for a gig or one man horse carriage of any description .25; for a man and a single horse .12; footman or lead horse .06 ¼ ; cattle .04 a head; hogs and sheep .02 a head; Provided he goes bond on a good security in the sum of \$1,000.00 for the keeping of a good flat and faithful performance of the duties of ferryman.⁵²

This record not only indicates the county's interest in commerce beyond the Chattahoochee but also that the authority for the route may have been more of a regulatory tool to encourage fair rates and performance standards. This was increasingly important for facilitating traffic as the area began to swell with what Merrell labeled "forty acre people" seeking quality land in Georgia's upper reaches. By 1840, at least a dozen such operations had been established on the Chattahoochee River between Forsyth County to the northeast and DeKalb towards the southwest. Indeed, because of their low cost in relation to bridges, many ferries continued to function well into the twentieth

⁵² Garrett, 76.

century, and numerous metro Atlanta street names, such Power's Ferry Road and Pace's Ferry Road, can trace their origins to these endeavors.⁵³

As cotton production and white settlement continued to stab westward into the Piedmont, the Georgia legislature began to seriously consider financing schemes to help reduce the cost of shipping from the interior's fledgling agricultural and industrial production economy to the coastal seaports. They were also interested in possibly linking the state's manufactured goods to the lucrative markets beyond the Tennessee River Valley. In 1825, stimulated by New York's successful experiment with the Erie Canal, Georgia created a Board of Public Works to investigate the possibility of constructing a grand canal system that would connect the Tennessee River with the Georgia rivers that flow into the Gulf of Mexico and the Atlantic Ocean.

But the combination of municipal rivalries, Cherokee protests, and unsuitable terrain proved to be insurmountable obstacles. From the start, coastal cities seeking to increase the traffic of goods entering and exiting their ports squabbled amongst themselves and prevented any agreement on a canal terminus. Moreover, the Englishman Hamilton Fulton, who had been hired by the Board to act as Chief Engineer of the proposed project, soon found that the Cherokee Nation, tempered by Georgia's recent dealings with the Creeks, was unwilling to allow topographical surveys in their sovereign lands. Undaunted, Fulton and his aid Wilson Lumpkin persisted until the Cherokees forced them off their land at gun point. Fulton's crew had, nonetheless, made cursory evaluations and declared that the Appalachian mountains, "which divide and separate the Western from the Atlantic water, may justly be considered (on our whole northern line) a

⁵³ Local historian Michael Hitt offers a thorough accounting of the ferries and bridges located in the area during this period, see Michael D. Hitt, "The Chattahoochee River Crossings of Roswell, Georgia," (Rosewell, GA: by the author, 2002), 1-38; see also Gerdes and Messer, 18-21. *Merrell*, 155

formidable breast work of nature calculated to defy the ingenuity of man.” Other members testified that Georgia’s soils were ill-suited for canals and any constructed by the state would require exorbitant construction and maintenance costs. And so, faced with limited profits from land lotteries and the Board’s apparent dismissal of a canal option in its 1826 final report, Georgia’s high hopes for a centralized canal were drowned out.⁵⁴

Although the Board of Public Works only existed for one year, its report did exert considerable influence over the state’s future internal improvements. Not only did it recommend that Georgia not follow states like Pennsylvania and Virginia in pouring funds into obsolete canals, but it also suggested that a single seaport for exports be selected and that main rivers be made navigable for steamboats. It also suggested that the state forego plans to expand into regional and national trade circles and instead concentrate its resources into consolidating internal trade for the benefit of its own citizenry. Most importantly, the Board advocated that railroads, which could more easily blend into the natural landscape, should serve as the main transportation arteries.⁵⁵

Over the next decade, Georgia sputtered in achieving these policy goals. The cities of Brunswick, Augusta and Savannah, in bailiwick fashion, continued privately-funded attempts to build short canals into their respective ports. The state legislature appropriated funds amounting to \$80,000 to improve navigation on the Oconee, the Altamaha, the Chattahoochee, the Ogeechee, and the Ocmulgee Rivers, but the bulk of these piecemeal efforts were directed to improving traffic below the Fall Line. Black belt

⁵⁴ Robert Coleman. *A History of Georgia*. 2nd ed. (Athens: University of Georgia Press, 1991), 155-56, see also Gates, Chapter Three, 70-87.

⁵⁵ Gates argues that this effort to consolidate the scattered economic activity through viable transportation networks was what ultimately allowed Georgia to emerge as “the Empire State of the South.” Gates, 79-83, Chapter Four: *passim*.

planters also benefited as restrictive steamboat monopolies were lifted (*Gibbons v. Ogden*) and steamboat builders learned to lessen the draught and generally improve the design of their riverboats. By 1838, although river transportation above Columbus remained limited to shallow-draft vessels going short distances, a few flatboats and barges were making runs between Standing Peachtree and West Point, Georgia.⁵⁶

Once South Carolina completed its rail line from Hamburg to Charleston in 1830, the Georgia legislature felt it must act. Georgia's coastal cities, fearing the loss of commerce, quickly shelved canal plans and caught the railroad-building fever. Piedmont planters, who chafed over high transport costs, put substantial pressure on their elected representatives to follow the Board's recommendations and get busy building a railroad system. In 1833, the legislature responded by chartering the Georgia Railroad, with the intent to connect Augusta to Athens, with a branch to Greensboro, Georgia. Then, in 1836, following the opening of Cherokee lands to white settlement, the legislature chartered the state-owned Western and Atlantic (W & A) to tie the Georgia interior with the Tennessee valley at Chattanooga.⁵⁷ The only issue that remained for Piedmont residents was where the W & A's line would traverse and terminate.

It is unclear to what extent King and his associates were privy to the debates concerning the W & A's path, but they certainly chose a propitious location and time to build their factory. In 1836, the legislature resolved that "the said railroad shall cross the Chattahoochee River at some point between Campbellton, in Campbell County, and Wynn's Ferry, in Hall County." This official statement mirrored the Board of Public Works' general assessment that that the area between the Chattahoochee and the Etowah

⁵⁶ Coleman, *History of Georgia*, 156; Geddes and Messer, 18.

⁵⁷ Coleman, 156-57.

Rivers was the most efficient northerly route. Governor Wilson Lumpkin (1831-1835), who had participated in the preliminary canal surveys, was also convinced that this was the best route. He wrote, “with regard to the great central road, I speak with confidence when I express the opinion that no country admits of a superior road to what might be framed from the Chattahoochee to the Tennessee River.” His message held sway, and the legislature authorized the construction of a trunk line from the Georgia state boundary “. . . commencing at or near Rossville, in the most direct and practicable route, to some point on the southeastern bank of the Chattahoochee river, which shall be most eligible for the extension of a branch railroad thence, to Athens, Madison, Milledgeville, Forsyth, and Columbus, and any other points which may be designated.”⁵⁸

The act said nothing of the line’s end point. This responsibility fell to Chief Engineer Stephan Harriman Long, who in 1837, after surveying six possible routes that lay within the seventy mile distance between Wynn’s Ferry and Campbellton, chose Montgomery’s Ferry as the most “economical and favorable” place for crossing the river. Further accommodations were made to extend the W & A “eight miles” east beyond the river to a point near the “headwaters of the South River” where a ridge summit provided the suitably flat space for the W & A and the Georgia Railroad to meet. This site, land lot No. 77, became the depot for the town called Terminus, whose first train departed for a round trip to Marietta, Georgia on December 24, 1842.

By 1851, with the entire line from Chattanooga to the renamed Atlanta in operation, the state of Georgia was well on its way to successfully circumventing at least one geographic constraint—namely the lack of navigable rivers above the Fall Line—

⁵⁸ A. Hollis Edens, “The Founding of Atlanta: Part I,” 221; For the final route and location of the W & A terminus, see A. Hollis Edens, “The Founding of Atlanta: Part II,” 273-90.

that had hampered so much of its early economic development. Atlanta's population climbed steadily, reaching 7,741 at the dawn of the Civil War, as the major rail lines it sat atop fingered out into the southeastern United States and began to clutch distant markets. Even after General William Tecumseh Sherman's Union Army followed the W & A's trail into the city, utilizing and destroying most of the region's ferries, bridges, and factories along their way to Savannah, Atlanta rebounded, and by 1775, when the city established its first municipal water system, its population was well over 30,000.⁵⁹

But increased population brought other geographic considerations to the fore: adequate water supply and wastewater removal. As population densities rose sharply during the post-war years, Atlanta's wells and springs became contaminated by leaching cesspools, overflowing privies and streets, and poorly constructed sanitation ditches. The construction of underground water-carriage sewers eliminated one set of problems but caused another: it discharged effluence from household "water closets" into the river systems that were now being used to supply drinking water. Although Atlanta fortunately escaped the water-born epidemics that ravaged many urban areas during this time, alarmed local citizens feared that the city's health and reputation would suffer if proactive steps were not taken.

Urban historian Stuart Galishoff has published numerous articles examining Atlanta's early attempts to address its public health concerns. He, like many others who have analyzed similar attempts in various cities during this period, often focus their attention on how public authorities such as Boards of Health, City Engineers, and chambers of commerce have sought technological solutions to environmental problems.

⁵⁹ Franklin Garret. *Atlanta and Environs: A Chronicle of Its People and Events*, vol. 2 (Athens: University of Georgia Press, 1969), 1.

For instance, Galishoff details how Atlanta officials painstakingly inched beyond the use of wells and cisterns and eventually created a modern water supply system that tapped into the Chattahoochee River. Likewise, building off of Martin Melosi and Joel Tarr's scholarship, he chronicles how sanitarians utilized the evolution of disease theory to convince Atlanta's municipal officials of the need to construct modern sewerage infrastructure, most notably by becoming the first American city to adopt the Imhoff sedimentation tanks. In short, Galishoff's work centers on public engagement with the built environment.⁶⁰

Examining urban water resources from the perspective of public authorities has certainly enlightened our understanding of the process of urban development. After all, when citizens voice their complaints, as did Simeon Kennady when he wrote—“I have to inform you that I live on Cain street intercepted by brooks and rivulets. Void of access to my house. I need not give you the details of my difficulties.”—they do so in the hopes that their elected officials will alleviate their concerns. And as studies have shown, municipal authorities have demonstrated a remarkable capacity for remedial action.

Yet exclusive discussions of public authorities vis-à-vis water resources may silence the ways in which ordinary, individual citizens encountered their changing environment, particularly with respect to obtaining adequate water supplies. For example, while Galishoff notes that “private sources of water supply were supplemented by a few public wells and pumps located near the business district and maintained by a council Committee on Wells, Pumps, and Cisterns,” he does not dwell on what those private

⁶⁰ Stuart Galishoff, “Paying for the Cost of Growth,” 3-51; John Ellis and Stuart Galishoff, “Atlanta's Water Supply,” 5-22; Joel Tarr and Martin Melosi are among the pioneers in the field of urban environmental history and the technologies of urban infrastructure. For examples of Tarr's work, see Joel Tarr, *The Search for the Ultimate Sink: Urban Pollution in Historical Perspective* (College Station: Texas A & M Press, 1996); For an encyclopedic account of changing public health paradigms and the technologies of urban sanitation, see Martin Melosi. *The Sanitary City*.

sources were or how they came to be. Likewise, when discussing Atlanta's successful drilling of an artesian well, he frames the achievement within the context of the *city's* march toward a modern *municipal system* without stopping to consider how the ground water source was found or the techniques used for bringing it to the surface.

Atlanta's earliest settlers, as well as those later residents that lived some distance from municipal pumps, relied on natural springs. Sarah Huff's manuscript passage "Springs of Early Atlanta," is revealing in its attempts to convey not only the importance of these springs in providing "the refreshing waters of life," but also the social life they engendered. And though the selection appears somewhat mawkish in tone, a quick survey of some of its lines offers a sense of the centrality of springs "singing the song of the Chattahoochee as they travel along."

Recognizing the presence of water as a *sine qua non* for life, she begins by flatly stating, "a spring on a piece of property was its most valuable asset." Springs, she writes, were the areas where men hunted deer and mothers and wives washed family clothes. Moving past the necessities of frontier life, she then explores the social dimensions that the occurrence of springs provide: "as the hamlet became more thickly settled gathering places were required, and as there were no halls, big springs, like the famous Walton Spring, came in handy, for beautiful groves in which to arrange seats were sure to give shade for big audiences." Springs were amorous settings as well. "In the old days," she writes, "it (Mineral Spring) was also known as the source of the town's romances. Various pioneer women have told me that their troth was plighted while they and their suitors promenaded to and from the Mineral Spring."

With these sentimental flurries recorded, Ms. Huff then returns to the more practical aspects. She mentions that although Huff Spring flows “at the rate of the rate of six gallons per minute,” her family discontinued use of this spot. Possibly explaining why her family no longer utilized the Huff Spring’s cold waters, she then adds, “for purposes of greater convenience the citizens began digging wells.” She explains that these wells were not without their own sets of problems as well. “The town being floored with Stone Mountain granite made well-digging a very irksome task. The rock was usually reached at a distance of only a few feet from the top, but water was seldom found before the well measured from fifty to seventy five feet.” Some residents, however, devised solutions: “the foreign-born men, many of them workers in iron, put pumps in their wells and cisterns.” Ms. Huff then concludes the chapter by expressing her mixed feelings about the city that has grown around her. She observes, “the people of the old-time town loved their springs so dearly, the wonder is that they didn’t name their village Springville or Springplace,” before lamenting that “filling up of those springs deprived the town of its most picturesque feature.”⁶¹

The vicissitudes of Ms. Huff’s prose, from waxing romantically to dry assessments, illuminate the complex relationship individuals have with their environment and water sources in particular. Her pastoral images are, to some extent, reminiscent of the Native American belief in balance and order, yet her musings are not embedded with religious overtones or spirituality of any sort. In fact, Huff’s mentioning of springs being covered over and the loss of what seems to have been a picturesque landscape complicates Charles Hudson’s distinction between Indians and whites. He writes,

⁶¹ Huff Collection, AHC, box 1, folder 13.

“industrialized nations have for so long assumed that nature exists for man to use in any way he sees fit, and that nature is infinitely forgiving, the Cherokees recognized that man had to exploit nature in order to live, but that man should do so carefully, and that nature was not infinitely forgiving. If mistreated, nature could strike back.”⁶² Speaking in generalities, Hudson may be correct. Although there is no direct evidence that the Roswell Manufacturing Company was environmentally negligent, the continued expansion of the mill facilities demonstrate that its investors clearly saw the area as a place to be improved upon and exploited for profit. Huff, for her part, exploited the fruits of earth but she also paused to reflect on the nefarious features of rapid development. Indeed, if a sense of spirituality does inform her writing, it is in her grieving the loss of a sense of place, the meaning one gives or attachment one feels toward a specific location.

Samuel Richard’s diary from the late 1860s to the late 1870s has numerous entries that mention his family trips to city’s springs and the social atmosphere that pervaded these locations. On Friday May 17, 1872, he wrote: “Yesterday afternoon Jabe (z) and I with Miss Marion and Sallie rode out to the “Ponce de Leon” Spring about two miles. This mineral spring has lately become quite famous with our citizens and crowds ride there everyday for pleasure and for health . . . The Spring is situated in a deep glen in the woods and in quite a picturesque place.”⁶³ Later, on Monday August 23, 1875, he notes, “I have walked to the Atlanta Mineral Spring several times before breakfast of late with our girls and Annie Isham.”⁶⁴

⁶² Hudson, 157.

⁶³ Samuel P. Richards Collection. MSS:176, folder 7, AHC.

⁶⁴ Ibid, folder 8.

Some of Samuel's most interesting journal entries pertain to his well and to the uncertain access to water in the Piedmont soil. Commenting on the status of the construction of his new home, he wrote "I have also had a well dug there and it was very successfully and speedily done. It is but nineteen feet deep and we have 5 ½ feet water." No more than four months after being dug, he wrote that "a rough, yet picturesque, well box" was built that "works easily with tow baskets on a chain." He adds, "I am afraid too that the water is sinking as it is less than two feet." Over the next five years, the water level in Samuel's well continually rose and fell, even dropping to eight inches in the fall of 1870. In January 1868, he noted that "the water has returned in abundance" and then in November 1872, he literally hit rock bottom. "I have had our well dug thirty inches deeper," he wrote, "which is all the depth that could easily be made as the diggers came to solid rock at that point."⁶⁵

It is unclear if Samuel's well bottoming out at a little over twenty-one feet caused him to move his family to a new residence, but by 1877 Samuel had subscribed to the city's new water system. Completed in September 1875 at a cost of \$226,000, the waterworks pumped water five miles into the city from the South River. Ostensibly built to provide an increased volume of water via a sixteen-inch main for business and industrial needs and fire protection, the system had a daily capacity of 2 million gallons and had an additional three miles of smaller pipes to service residents living in or near the downtown business district.⁶⁶

Contrary to what one may expect from someone who had persistent problems obtaining water from his well, Samuel's diary entries concerning piped-in water are

⁶⁵ Ibid, folders 6,7,8.

⁶⁶ Ellis and Galishoff, "Atlanta's Water Supply," 6-7.

remarkably cool. Although his family had been required to fetch water from the well in their previous home, there is no excitement about having water flowing into the home. In fact, Samuel's diary reads like something one might find in today's newspaper columns. He started, "We have had the water from the works introduced from our premises today at 114 Washington Street" before adding "and just about dark gave the front yard a good sprinkling." But because the South River's water pressure remained low, city officials clamped down on residential use. Perhaps because he knew as well as anyone the fickleness of the water supply cycle, Samuel seems to have taken these water use restrictions in stride: "The weather is very warm and dry for the season and our 'sprinkler' is cut off until April 1."⁶⁷

Samuel also makes frequent mention of the state of city affairs, particularly with respect to infrastructure, or lack thereof. A devoutly religious man, his repeated references to (and judgment of) members of his congregation missing services on account of muddy streets testifies to Atlanta's lack of storm water sewers and paved streets. To that end, he wrote on Sunday August 27, 1871: "It has been storming more or less for several days and last night the rain came in torrents so that I had to go out at 3 o'clock this morning and wade in to open a drain in the yard to prevent a flooding." Like most urban residents of his time, his entries indicate that he was also cognizant of dangers of fire and epidemics, two major issues that prompted municipal officials to hustle for sufficient water supply and sewer removal systems.

As previously explained, the South River facility quickly proved itself incapable of meeting the city's needs. Its water was polluted because the river's reservoirs were fed by rain washings from the city's natural drainage sources, which by the 1870s had become

⁶⁷ Samuel Papers, folder 9.

opens sewers. What's more, low water pressure meant that the system failed to provide for the services for which it was intended. The network's limited capacity was unable to flush the crude rock sewers built after 1873. By 1886, many in the city were drinking water from an artesian well near Five Points.

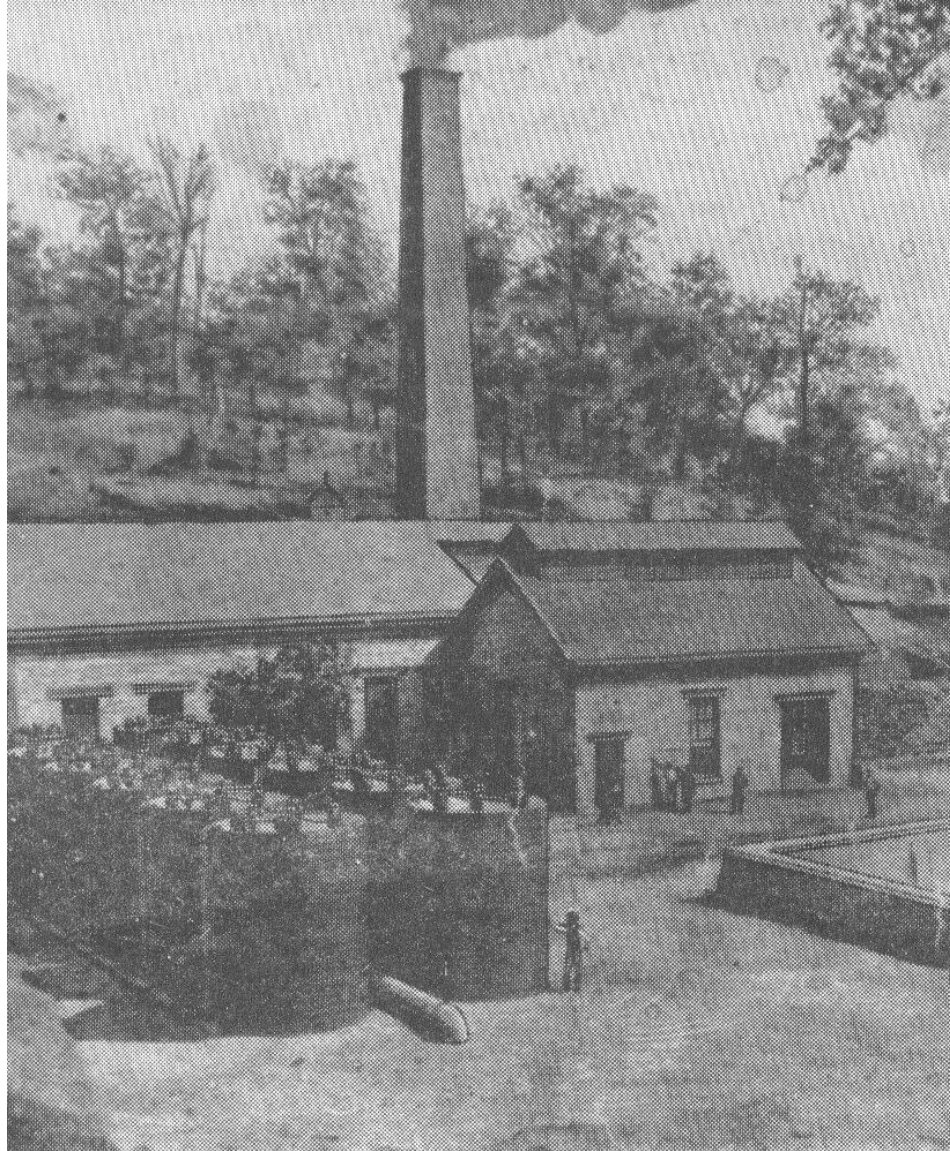


Figure 1.2 – South River Station in 1887. (Source: City of Atlanta, Department of Water, “The Story of Atlanta’s Water,” 1969)

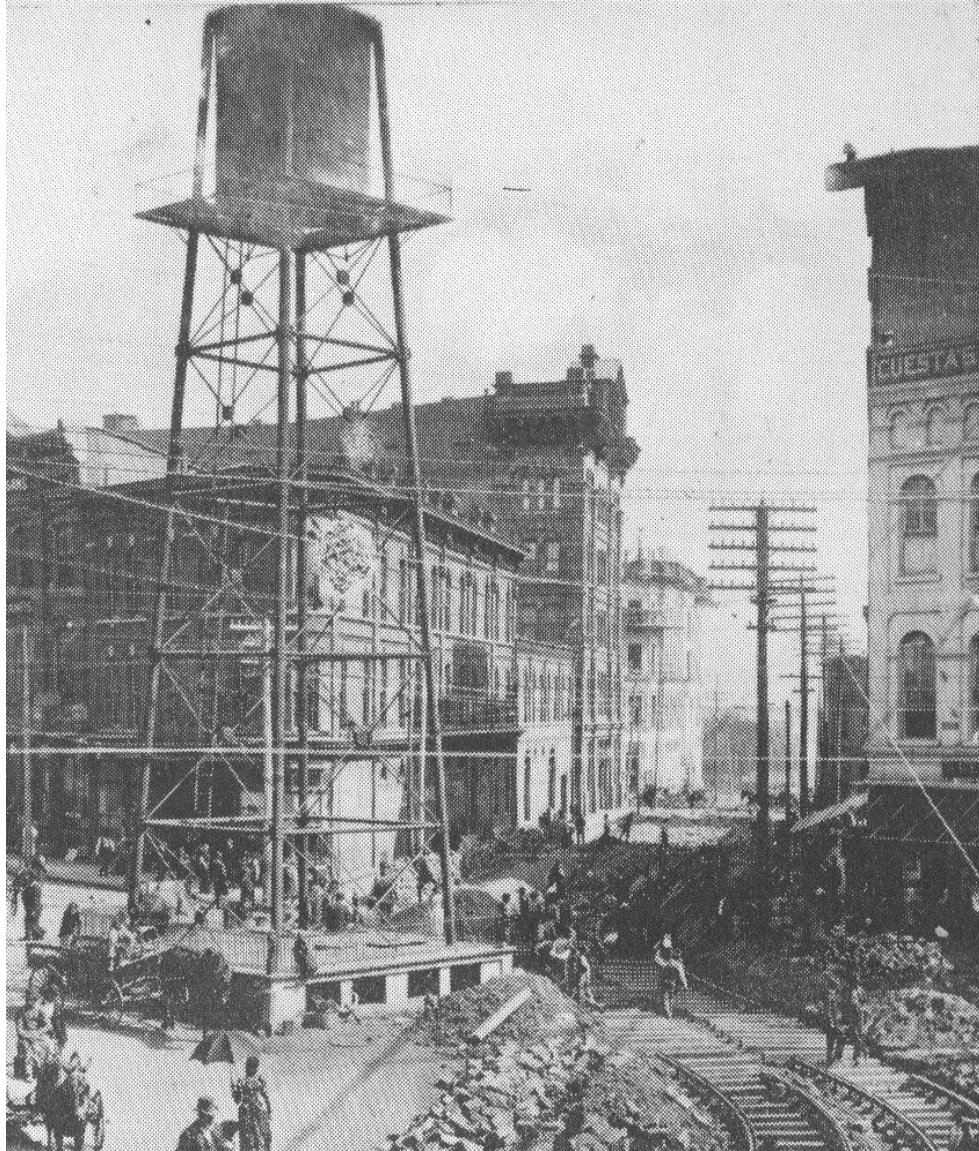


Figure 1.3 – Artesian Well at Five Points, ca. 1894. (Source: City of Atlanta, Department of Water, “The Story of Atlanta’s Water,” 1969)

Unfortunately, contemporary newspaper articles and city reports do not contain information or an explanation as to how the aquifer that provided water for the artesian well was located and delivered to the surface. Geologists inform us, however, that although the Piedmont's crystalline substrata has low porosity and is generally impermeable, ground water can collect in substantial quantities between cracks within. In cases such as this, when water is held between firmly sealed rocks and there is only a limited means of escape, it will stand under hydrostatic pressure and be expelled with force. Humans have been tapping into such ground water sources for over four thousand years. And while many swear by the accuracy of divining rods for locating groundwater, chances are that the crew that tapped the well employed more sophisticated technologies. By the early 1880s, when Atlanta first began looking for a supplement to the South River, petroleum engineers in the upper Appalachians had nearly perfected the technique of surveying and drilling and one can be reasonably certain—because records indicate that a steam-driven pump was used—that the crew that tapped the Five Points well used methods similar to those employed in oilfield operations.⁶⁸

Several types of drilling were available during this time and each corresponded to the surface to be penetrated. As a general rule cable tools were used in areas underlain by consolidated rock while hydraulic-rotary tools, and sometimes cable tools, were utilized in areas with unconsolidated rock. Because the Atlanta region's metamorphic and igneous rocks are consolidated, logic dictates that cable tools were used for the well's

⁶⁸ See for example, "Report of the Committee on Wells, Pumps, and Cisterns," in *Annual Report of the Officer of the City of Atlanta for the Year Ending December 31, 1884*, (January 4, 1885), 84-89; Kenan Research Center, Atlanta History Center; P.H. Kuenen, *Realms of Water: Some Aspects of Its Cycle in Nature* (London: John Wiley and Sons, Inc., 1955), 196-7; David R. Kaufman, *Peachtree Creek: A Natural and Unnatural History of Atlanta's Watershed* (Athens: University of Georgia Press, 2007), 160.

creation. This type of drilling was accomplished by crushing the rock by delivering hammer-like blows through a chisel-shaped bit suspended on a cable. The bit rose and fell freely into the hole, with the spring-like action of the cable causing it to administer a sharp, quick strike while the lay of the cable provided for a twist on each successive drop to turn the bit a few degrees. As the surge of the bit was impeded by cuttings lying beneath, the bit was periodically removed and a cyclical device with a flap valve, known as a bailer, was placed into the hole. The bailer would then fall to the bottom of the hole where it struck water, causing a rapid surge of water and cuttings upward with it. The bailer was then quickly raised and lowered and finally withdrawn from the hole with the cuttings. Once the well reached a desired depth, yields could be increased by fracturing the rock walls with explosives.⁶⁹

CONCLUSION

In *Nature's Metropolis*, historian William Cronon examines how the human-made systems of rail lines, credit networks, maps, and markets that emerged in the late nineteenth century effectively meshed with and obscured ties to the non-human ecological system, creating the impression that both systems were quite “natural.” He explains that “a kind of ‘second nature’ designed by people and ‘improved’ toward human ends, gradually emerged atop the original landscape that nature—‘first nature’—had created as such an inconvenient jumble.”⁷⁰

⁶⁹ William C. Walton, *The World of Water* (New York: Taplinger Publishing Company, 1970), 156-8.

⁷⁰ William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W.W. Norton & Company, 1991), 56, passim.

This same scenario would also play out in Atlanta by the end of the nineteenth century. Georgia's Native Americans had established settlements along the Chattahoochee River's rich alluvial soils and fished within its flowing waters. Whether they fashioned weirs to capture the fish or cleared forest undergrowth to stimulate game, they actively modified the natural environment around them to suit their purposes. But due to their animistic worldview and low population densities, Native American alteration of the physical environment remained limited. Georgia's white settlers, however, intensified the exploitation of the area's natural resources. Atlanta's political leaders and urban boosters would, under the presumption that they were simply improving upon the natural advantages the region provided, build ever larger mills and factories, lay railroad lines, and construct other urban amenities in an effort to foster economic development.

Water and sewer development were a large part of the cityscape's transformation. By the late 1880s it became apparent that an entirely new water system would have to be constructed if Atlanta's growth was to continue. In 1891, for example, the Atlanta Water Works opened its 20 million gallon Hemphill Avenue water station on the Chattahoochee River. Similarly, city leaders, fearing that their hodge-podge system of sewers would invite the ravages of water-borne diseases, passed a bond issue in 1910 dedicated to the construction of over 300 miles of combined sanitary and storm water sewers and the establishment of three sewage plants capable of treating up to 16 MGD.⁷¹

⁷¹ AWW, "A Century of Progress," (1975), 7-12 (hereafter cited as AWW, "A Century of Progress"); for more detail on the early history of Atlanta's sewer system, see Galishoff, "Paying for the Cost of Growth," 9-41; An extended analysis of the problems associated with combined sewer systems will be presented in Chapter Four of this dissertation.

Although some Atlantans like Sarah Huff may have pined for the pastoral days of yore, most greeted the city building process with a sense of optimism. In implementing these modern water systems, Atlanta leaders could pride themselves with having spared the public the inconveniences of gathering water from wells and cisterns as well as the health hazards associated with privies and sub-standard sewers. They would also express faith in the community's capacity to shape its own destiny.⁷² But as subsequent chapters will show, the problems of limited water resources would not be overcome so easily. The Chattahoochee River's natural flow regime would soon prove too feeble to effectively meet the demands of the city's surging population and would thus prompt civic leaders to beseech the federal government to assist in the impoundment and regulation of its contents. In addition, as the metropolitan population began to spread further from the downtown area, less of the water withdrawn from the river was returned and would instead be diverted into other drainage basins, which reduced the Chattahoochee's ability to assimilate increased waste loads and created the need to explore enhanced treatment options.

⁷² Dana F. White and Timothy J. Crimmons, "How Atlanta Grew: Cool Heads, Hot Air and Hard Work," in *Urban Atlanta: Redefining the Role of the City*, ed. Andrew Marshall Hamer (Atlanta: Georgia State University Press, 1980), 32-35.

CHAPTER TWO

“ATLANTA GROWS WHERE WATER GOES”

The only basic factor in Atlanta’s future growth which must be improved is our water supply. Practically all new industrial growth and improvement revolves around plentiful supplies of water. It is desperately vital to our civic existence.

William Berry Hartsfield, 1951 Annual Address

Unless Metropolitan Atlanta recognizes the practical limits of its urbanization, it may someday face a breakdown of the essential services and facilities on which a city must depend.

Metropolitan Planning Commission, February 1952

In February 1952, the Metropolitan Planning Commission (MPC) published its first regional land use guide for Metropolitan Atlanta, *Up Ahead*. This plan was intended as a “general framework” for guiding the physical growth of a 300-square mile “urbanized core” that extended beyond the City of Atlanta. To that end, the MPC forecasted future trends in population, industry, and commerce and recommended primary highway and rail systems that would “be necessary for the free movement of people and goods.” In addition, the planning agency laid out general estimates for future public facilities such as highways, hospitals, parks, and water based on its evaluation of growth trends.¹

By the 1950s, Atlanta’s five-county metropolitan population was 694,669 and was expected to rise to more than 1.2 million by 1980. Based on these figures, water supply emerged as a particular concern for the MPC. Whereas most urban area of Atlanta’s size had developed along the shores of rivers, lakes, or oceans, Georgia’s capital was situated

¹ Metropolitan Planning Commission, *Up Ahead: A Regional Land Use Plan for Metropolitan Atlanta* (Atlanta, February 1952), 2.

on a water divide, a distinction it shared with only three other large cities in the world. The ridge that Atlanta is perched atop is part of the Eastern Continental Divide, which splits drainage between the Gulf of Mexico and the Atlantic Ocean. According to the MPC, this geographical feature is significant for two reasons. First, the ridge summit served as an ideal spot for a railroad junction and contributed greatly to Atlanta's strategic importance as a transportation center, a position the city could enhance with further improvements to its rail, highway, and air transportation systems. Second, the ridge and its rocky surroundings made the region vulnerable to a lack of water. In fact, the planners emphasized that Atlanta "must be able to develop a water resource base capable of supporting a much greater demand than at present" if the city was to continue to grow.² Never before it seems were the challenges of reconciling the limitations of the Chattahoochee River watershed with the ambitions of the Atlanta metropolitan region as apparent as they were in the immediate post-World War II period

The desire to maintain economic growth was the shibboleth of Atlanta's mid-twentieth century political and business establishment. Key members of this community, as it turns out, had been engaged in an intense lobbying effort to secure the construction of Buford Dam, a multi-purpose impoundment authorized by Congress in 1946 to regulate the flow of the Chattahoochee River. Regulated releases of the river were necessary, Atlanta Mayor William Hartsfield and other pro-growth advocates successfully argued, because Atlanta was largely at the mercy of the Chattahoochee River's historically erratic flow. This group was also concerned, however, that the City of

² For metropolitan population estimates, see MPC, *Now. . . For Tomorrow: A Master Planning Program for the DeKalb-Fulton Metropolitan Area* (Atlanta, 1954), 6; The other three cities located on a water divide are Birmingham, England; Lviv, Poland; and Johannesburg, Union of South Africa. MPC, *Up Ahead*, 12,

Atlanta might experience the loss of population, tax revenue, and white political control because of decentralized metropolitan growth. Consequently, while Atlanta officials embraced certain features like highway construction that were recommended in the MPC's various land use guides, they also embarked on self-serving annexation plans and infrastructure building that included major expansions to the Atlanta Water Works (AWW). The unfortunate results were that the goals of comprehensive regional planning were undermined and greater water consumption was encouraged.

THE ROOTS OF REGIONAL PLANNING AND THE POTENTIAL OF A REGULATED RIVER, 1900-1946

The growing pains that Atlanta experienced at mid-century were a result of the uncoordinated growth that characterized the city's early development. The state assembly that authorized the initial land surveys in the 1830s was thinking about railroads, not a future metropolis, and as a result formal planning had been a neglected affair. Atlanta's first streets followed old Indian trails, railroads fingered out atop natural ridges, and its neighborhoods and industry emerged in the ample space that existed in between. Improvements to the city's waterworks, sewage system, and the street pattern had of course been made as new industry and people flocked into the city, but no action was taken toward overall planning until the state General Assembly established the Atlanta City Planning Commission (CPC) in 1920.³

The Planning Commission was the product of the Atlanta Chamber of Commerce's attempts to impose order on a city that was undergoing significant demographic and spatial transformations. Between 1900 and 1920 the City of Atlanta's population grew from 89,872 to 200,616, an increase of 123 percent. Such a drastic

³ Ibid, 20-21.

change in a relatively short period of time no doubt required at least some improvements to the city's infrastructure. And as historian Blaine Brownwell explains, although urban business groups were involved in political reform movements, "leading commercial and civic groups were, in fact, apparently more prominent and influential in the early attempts to solve urban ills through systematic, comprehensive city planning than they were in the revision of municipal government." There is little surprise then that CPC's authorized tasks were to make recommendations for laying out new streets, boulevards, and sidewalks, relieve traffic conditions, address sanitary improvements, and to establish zoning regulations and propose plans for an area as far as six miles away from the city limits of Atlanta and into Fulton County.⁴

The commission's responsibility for alleviating traffic congestion and planning into Fulton County reflects a growing awareness of the technological and demographic trends that attended the introduction of the automobile. Like the streetcar before it, the car refashioned the modern urban landscape by providing people with the ability to work and shop in the city during the day while retiring into residential suburbs in the evenings. For example, while the city's population grew during the 1920s by thirty-five percent, the population of Fulton County outside of Atlanta grew by fifty-one percent. The result was

⁴ According to historian Don Doyle, the Atlanta Chamber of Commerce "played a decisive role in converting the renowned 'Atlanta spirit' into an effective program for city building." Established in 1860 as an instrument for fighting railroad rate discrimination, the Chamber had by the early 1900s branched out to become a representative for the entire cross-section of Atlanta's commercial interests. Charles Paul Garofalo has further argued that the Atlanta Chamber of Commerce was in fact a leading advocate of the city manager movement during the 1920s. Through the use of its monthly *The City Builder*, published from 1916 to 1935, the Chamber promoted various civic projects and political reforms that it believed would encourage continued economic development. Don Doyle, *New Men, New Cities, New South*, 139; For an examination of the issues covered and programs in *The City Builder*, see Charles Paul Garofalo, "Business Ideas in Atlanta, 1916-1935" (Ph.D. diss., Emory University, 1972); For a comparative account of origins of comprehensive city planning in the South, see Blaine Brownwell, "The Commercial-Civic Elite and City Planning in Atlanta, Memphis, and New Orleans in the 1920s," *The Journal of Southern History* 41:3 (August 1975), 340; MPC, *Up Ahead*, 21.

an increasingly scattered population that no amount of newly paved streets or viaducts could recapture.⁵

Supplying Atlanta with sufficient amounts of water was also a fundamental concern. Between 1920 and 1923, for instance, the AWW installed seven concrete rapid sand filters, constructed a new chemical application building, added a 10 million gallon clear well, and laid a 48 inch supply line from the Chattahoochee River Pumping Station to the Hemphill Treatment Plant. As a result of these improvements, AWW system capacity jumped from 41 MDG to 62 MGD.

AWW officials also began to worry that the natural flow of the Chattahoochee River would need to be altered so that the city could consistently withdraw the necessary amounts to feed its water supply system. The river's depth fluctuated considerably over the course of the year, which was a primary reason the AWW constructed two storage reservoirs with a combined capacity of 500 million gallons in 1920, a reserve amount that alone could supply the city with water for about 16 days. In 1925, moreover, the region experienced a severe drought that reduced the amount of water that flowed past the AWW intake from an average of 2,710 cubic feet per second (c.f.s) to a low 230 c.f.s, (a change from 1,751 MGD to 148 MGD). Although actual use during the period hovered around 30 MGD, the drought brought water levels so low that it nearly exposed the AWW's intake pipe. In order to prevent water rationing, at the AWW's behest, the City Council decided to furnish funds for the construction of a rip rap dam that would use rock

⁵ Bradley R. Rice, "The Battle of Buckhead: The Plan of Improvement and Atlanta's Last Big Annexation," *Atlanta Historical Journal* 25 (Winter 1981): 7.

pilings to divert the river's flow to the intake side of DeFoor's Island to insure sufficient depth of water over the intake main.⁶

Atlanta's water managers were not the only ones interested in the use of dams to harness the potential of the Chattahoochee River. The Chattahoochee is part of a larger system, known as the Apalachicola-Chattahoochee-Flint (ACF) River Basin, which originates in Georgia's Blue Ridge Mountains and flows past Atlanta as the Chattahoochee River before merging with the Flint River to become the Apalachicola River before emptying into the Gulf of Mexico. Residents on the lower reaches of the system began to organize in the early 1920s to promote the

dual goals of flood control and navigation enhancement along the river through a series of locks and dams between Columbus and Atlanta. It was hydroelectric power, however, that first got Congress's attention. In 1925, Congress asked the Corps of Engineers to work with the Federal Power Administration (the precursor to the Federal Energy Regulatory Commission) to examine the development of hydroelectric facilities on the nation's waterways, which included the ACF basin.⁷

⁶ AWW, "A Century of Progress," 12-13. "No Danger of Water Famine in Atlanta, Says Engineer," *The Atlanta Constitution*, 11 September 1925; U.S. Department of the Interior, U.S. Geological Survey, *Water Resources of the Atlanta Metropolitan Area*, by R.W. Carter and S.M. Herrick, (Washington, D.C., 1951), 10 (hereafter cited as Carter and Herrick, *Water Resources of the Atlanta Metropolitan Area*).

⁷ According to Lynn Willoughby, floods in 1901, 1912, 1915, 1916, and 1918 convinced downstream communities of the need for constructing dams for flood control. Similarly, the desire to promote the regional economy prompted local business interests to form the Chattahoochee Valley and Gulf Association. During the 1920s it pressured Congress to authorize a survey of the Chattahoochee from Columbus to Atlanta for the purpose of opening the upper reaches of the river to self-propelled barges that would connect with the inter-coastal system at the Gulf of Mexico. Lynn Willoughby, *Flowing Through Time*, 163-168; Memorandum and Order at 43 In Re: Tri-State Water Rights Litigation, 3:07 md-01 (2009) http://www.dep.state.fl.us/mainpage/acf/files/statements/071709_magnuson_ruling.pdf (accessed May 21, 2010), (hereafter cited as Phase I Ruling).

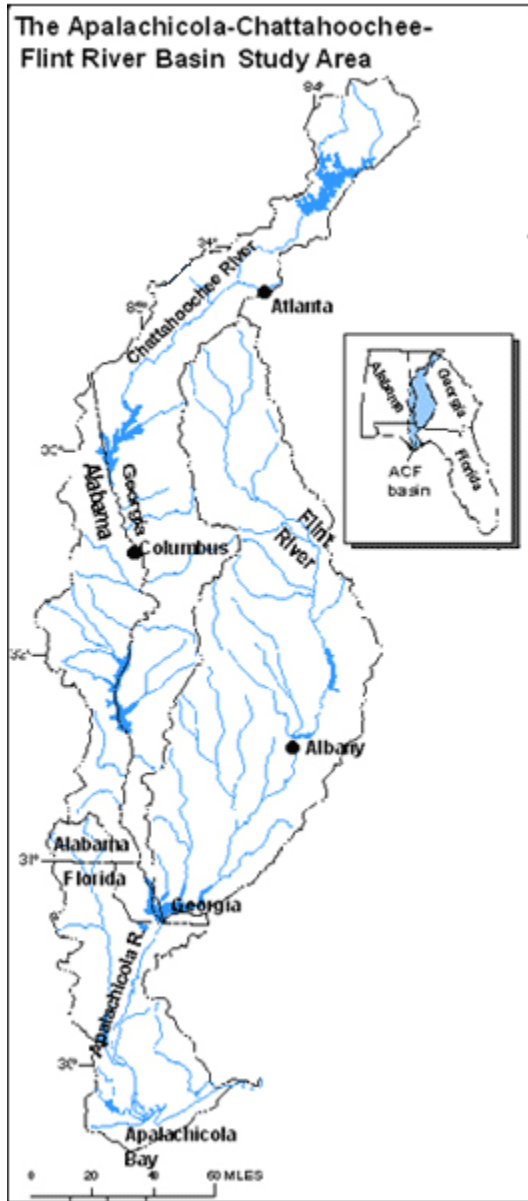


Figure 2.1 - The Apalachicola-Chattahoochee-Flint River Basin. (Source: U.S. Geological Survey. <http://ga.water.usgs.gov/nawqa/basin/images/map.basin.gif> (accessed June 28, 2010))

Efforts to develop the ACF stalled, however, after the stock market crash of 1929. During that time Atlanta, like most other cities, was reeling from the effects of the economic downturn. By the mid-1930s Atlanta was thirteen million dollars in debt and teetering on the brink of financial ruin. It was paying its employees in scrip and was unable to undertake badly needed improvements to the city's health facilities, schools, parks, and water-related infrastructure.⁸

Crises often present reform-minded politicians with an opportunity to enact sweeping changes, however. William Berry Hartsfield was this kind of politician. Born in 1890 as the son of local tinsmith, Hartsfield rose to prominence through a keen mixture of self-discipline and self-promotion. Unable to afford a formal education, he wrote to deans of prominent universities and requested lists of essential readings. Working as a clerk during the day and spending his evenings in the Atlanta Public Library (his alma mater, he liked to say), he was effectively self-taught and was subsequently admitted to the Georgia Bar Association in 1917. From this point he moved quickly into politics, elected as a city alderman in 1923, as a state legislator in 1933, and finally serving as mayor, with the exception of a single two-year term, from 1937 until his retirement in 1962.⁹

As a public servant, Hartsfield was the consummate urban booster. Throughout his four decades in public office, he relentlessly promoted Atlanta as a national aviation center and was a tireless huckster who relished any opportunity to enhance Atlanta's prestige for attracting commercial enterprises. To that end, it was Hartsfield who

⁸ Clarence N. Stone, *Regime Politics: Governing Atlanta, 1946-1988* (Lawrence: University of Kansas Press, 1989), 14-18; Harold H. Martin, *William Berry Hartsfield: Mayor of Atlanta* (Athens: The University of Georgia Press, 1978), 21; Douglas L. Smith, *The New Deal in the Urban South* (Baton Rouge: Louisiana State University Press, 1988), 108.

⁹ Harold H. Martin, *William Berry Hartsfield*, 1-17.

famously labeled Atlanta as the city “too busy to hate,” a phrase that served as a convenient mantra for a coalition of racial moderates who maneuvered to help Atlanta publicly sidestep much of the turmoil experienced by other southern locales during the burgeoning civil rights revolution. Although skeptical of New Deal-style politics, which he believed potentially diluted personal character and initiative, he nonetheless courted the federal government for increased expenditures directed toward the betterment of his city. “Whatever his forum,” as one biographer noted, “Hartsfield never failed to beat the drum for Atlanta.” And though Hartsfield technically spoke for the city he was elected to steward, his words resonated well beyond its corporate limits, effectively making him the face of an emerging southern metropolis.¹⁰

After taking office in 1937, Hartsfield worked closely with the business establishment to repair the city’s frayed finances and infrastructure. With the support of his best friend, Coca-Cola magnate Robert Woodruff, who also presided over the prominent Trust Company of Georgia and served on the boards of General Electric and Southern Railway, Hartsfield worked to restructure the city budget and debt obligations. The mayor further restructured city departments to revise salaries and cut expenses and, with the aid of the Chamber of Commerce, created a civil-service program in 1939 that effectively undercut the appointive power of his ward-based political rivals. Most importantly, Hartsfield worked with federal relief administrators to secure funds for repairs to the city’s public facilities. As a result, in 1938 the city began its third major

¹⁰ Frederick Allen, *Atlanta Rising: The Invention of An International City, 1946-1996* (Atlanta: Longstreet Press, 1996), 27, 41; Martin, *Hartsfield*, 54-61; Kruse, *White Flight*, 26.

expansion of the Hemphill Water Treatment Plant, adding two additional sedimentation basins and seven new gravity filters to bring capacity to 72 MGD by 1941.¹¹

As it turns out, Congressional interest in ACF development was being revived just after Hartsfield was elected mayor. In 1939, Colonel R. Park, district engineer with the Corps, submitted a report to Congress that analyzed eleven projects at various stages of development in the ACF basin, including one at Roswell, Georgia, sixteen miles north of Atlanta. The Park Report, as it came to be known, detailed both the costs and benefits of each site. Colonel Park considered the following “direct benefits” for all of the proposed sites: transportation, hydroelectric power, national defense, commercial value of riparian lands, recreation, and industrial and municipal water supply. Park also noted that at the time the Atlanta area had no immediate need for increased water supply, though such a future need was “not improbable.” He stated that a large reservoir might have value as “an assured continuous water supply” due to the “continued rapid growth of the area.” Though he assigned the other direct benefits a monetary value, he declined to do so for water supply, presumably because the benefit of this purpose, unlike all of the others, could only accrue in the future, rendering any valuation at that time speculative.¹²

¹¹ Hartsfield also demonstrated that he fully understood the shifting electoral dynamics at play. In his 1949 mayoral campaign against County Commissioner Charlie Brown, Hartsfield openly canvassed for black votes and met with African American leaders on several occasions to hear their demands. Satisfied with the mayor’s new-found flexibility on the racial issues that they believed needed to be addressed, the Atlanta Negro Voters League endorsed Hartsfield. The mayor’s efforts paid off. Hartsfield easily carried the city’s African American precincts, which was no small matter considering that he lost the white vote, and help create a biracial governing coalition of African Americans and upper middle class whites and that would guide Atlanta’s development for the next two decades. Ronald H. Bayor, *Race and the Shaping of Twentieth-Century Atlanta*, 93-112, Martin, *Hartsfield*, 21-23; Kruse, *White Flight*, 26-28.

¹² In Re: MDL-1824 Tri-State Water Rights Litigation, 644 U.S. 1160, 8-9 3:07 (Eleventh Cir. 2011), (hereafter cited as Eleventh Circuit Ruling).



Figure 2.2 – Mayor William B. Hartsfield. (Source: re-printed in Robert David Coughlin, *Lake Sidney Lanier: “A Storybook Site”: The Early History and Construction of Buford Dam* (RDC Productions: Atlanta, 1998), 37.

As with the Great Depression, the advent of World War II played an important part in slowing down the development of the ACF basin. Atlanta officials continued to look on the ACF project with great interest. Three years after the Park Report, the Atlanta Freight Bureau, an organization created in 1902 to promote local shipping and business interests, released a study that urged Congress to pursue the full development of the ACF, which included a justification for the construction and maintenance of nine-foot navigation channel on the ACF from the Gulf of Mexico all the way up to Atlanta. This project, the Bureau argued, was not only economically feasible due to the significant increase in commercial tonnage on the river that was expected to occur but would also benefit the war effort because of Atlanta's "importance to the army as a supply headquarters to the fourth army corps."¹³

National defense and the augmentation of the South and its resources were but a few of the potential windfalls that were expected to result from the waterway development of the region. And with military and economic preparedness still a concern after 1945, Congress looked favorably upon the construction of multi-purpose dams as an important investment that could provide seemingly limitless power on demand as well as other benefits like navigation.

Congress moved forward with the ACF project when it adopted the Park Report recommendations in the Rivers and Harbors Act of 1945. But because the Park Report did not identify specific locations for the dams, the Corps continued to study the area over the next year. In 1946, the Corps, in its "Newman Report," recommended certain

¹³ AWW "A Century of Progress," 13; E.L. Hart, "A Review of the Proposed Development of the Chattahoochee River Basin" (August 15th, 1941). William Berry Hartsfield Papers, MSS 558, Series , Box 29, Folder 17, Manuscript, Archives, and Rare Book Library (MARBLE), Emory University; on the creation and early aims of the Atlanta Freight Bureau, see Doyle, 145-147.

amendments and revisions to the original plan for the ACF system, including combining several of the hydroelectric sites near Atlanta into one large reservoir at Buford, Georgia to increase power generation and to better regulate flows downstream. Division Engineer Brigadier General James B. Newman noted that the Chattahoochee River would be an excellent source of hydropower. According to Newman, a large reservoir—what would become Lake Lanier—was needed to make the locks and dams downstream more effective. The Newman Report noted that the proposed dam at Buford would be valuable for the purpose of flood control because of the frequent flooding in the basin and the severe damage that previous floods had caused. The report also explained that the various dams in the proposal would help keep flows continuous. These continuous flows would benefit navigation because they would allow barges to travel from Atlanta to Columbus and beyond, and they would assure a source of water supply for the City of Atlanta.¹⁴

The Newman Report, at several junctures, spoke of the benefit that the dam would provide for water supply. The report concluded that the project would “greatly increase the minimum flow in the river at Atlanta,” which would safeguard the city’s water supply during dry periods. In discussing the operation of the dam, the Newman Report noted that releases of 600 cubic feet per second (“cfs”) should be made during off-peak hours in order to ensure a continuous flow of the river at Atlanta of not less than 650 cfs, even though this flow would have a slight detrimental effect on power generation. The report noted that this “minimum release may have to be increased somewhat as the area

¹⁴ The three remaining dams are: the Jim Woodruff Dam at Chattahoochee Florida; George Andrews Dam at Columbia, Alabama; and Walter F. George Dam near Fort Gaines, Georgia and Eufaula, Alabama. Willoughby, *Flowing Through Time*, 169; Eleventh Circuit Ruling, 9-10.

develops.” The Report expected that any decrease in power value would be marginal and outweighed by the benefits of an “assured” water supply for the City of Atlanta.¹⁵

Federal spending played an enormous role in facilitating Atlanta’s twentieth century growth. Although the city had become by the 1930s the regional wholesale and retail center, it remained tied to a hinterland in which extreme poverty was common, which no amount of home-grown entrepreneurship or boosterism could easily solve. In fact, the revolution in the Southern economy occurred only when federal policies and programs were applied in combination with what historian Gavin Wright describes as “those enthusiast efforts of public agencies and private interests to welcome outsiders and outside money into the region.”¹⁶

The cumulative effect of this cooperation between the federal government and local officials on the Southern economy, particularly in the Atlanta region, cannot be underestimated. First, federal farm price supports, social welfare projects, and especially military expenditures during World War II and the postwar era were instrumental in buttressing consumer markets in the Southeast and paving the way for further industrialization, higher wages, and population growth. During WWII, for example, 266 new industries, many of which specialized in the manufacture of durable goods, were established in the Atlanta metropolitan area. In addition, not only did the Department of Defense designate Atlanta as the military supply center for the eight surrounding states, but dozens of federal agencies relocated to the city as well, with the net result of cash per

¹⁵ Ibid, 10-11.

¹⁶ Gavin Wright, *Old South, New South: Revolutions in the Southern Economy Since the Civil War* (Baton Rouge: Louisiana State University Press, 1986), 240.

capita income in the Southeast climbing to nearly seventy percent of the national average by mid-century.¹⁷

Second, the goals of many state and local officials in Georgia began to show a marked transition from the maintenance of white supremacy to the protection and promotion of economic and industrial progress. In addition to Atlanta's perennial promoters like Hartsfield or editorialist Ralph McGill, a new batch of politicians such as Georgia Governor Ellis Arnall (1943-1947) and Cobb County Commissioner George McMillan began to espouse development-oriented policies that tacitly accepted federal supervision of southern economic development. As historian Bruce Schulman convincingly argues, "changes in federal policy wrought a critical transformation in the character of southern political leadership . . . as the national security state supplanted the welfare state as the South's principal benefactor. . . 'Whigs' or 'business progressives' eventually dominated the South. Their ability to win military spending, research contracts, and highway and airport funds proved essential to both their political success and to their region's development."¹⁸

Finally, wartime and postwar military strategy and population trends seemed to point in the same direction: future development would most likely take place outside the city. The atomic bomb, many argued, made the dispersal of critical industrial sites and urban concentrations necessary. The selected location of three major manufacturing facilities—the Bell Bomber plant and the Ford and General Motors assembly plants—at opposite ends of the metropolitan Atlanta is evidence of this new defense reality. The

¹⁷ MPC, *Up Ahead*, 47; Paul Miller, *Atlanta: Capital of the South*, (New York: O. Durrell, 1949), 39; Frederick, *Atlanta Rising*, 30.

¹⁸ Numan V. Bartley, *The Creation of Modern Georgia* (Athens: The University of Georgia Press, 1983), 179-189; Bruce J. Schulman, *From Cotton Belt to Sunbelt: Federal Policy, Economic Development, and the Transformation of the South, 1938-1980* (New York: Oxford University Press, 1991); ix.

acceleration of an automobile culture only hastened this pattern. The result would be a geographically expansive metropolitan region whose water demands would have to be met.

THE BATTLE FOR BUFORD AND BUCKHEAD, 1947-1952.

Although Congress authorized the construction of the dams along the ACF, money would have to be appropriated each year through the construction process. The estimated cost of Buford Dam alone was \$32,790, 000. In 1947, Georgia Representative James C. Davis informed Mayor Hartsfield that there might be a funding problem for fiscal year 1948. Hartsfield, eager to get the project started, contacted various local officials in order to have a delegation supporting the project before the House of Representatives.¹⁹

Over the next three years, Hartsfield consistently campaigned for the completion of Buford Dam and Lake Lanier. But like the shrewd politician he was, his justifications and rationales for the project seem to have been suited for the audience at hand. For example, in a November 17, 1947 letter to Dr. John Steelman, whose assistance Hartsfield was seeking in order to secure \$1.5 million for the project, the mayor acknowledged the dam's multi-purpose nature but stressed the river as a vital water source for Atlanta. Hartsfield wrote: "The Chattahoochee River is Atlanta's sole water supply. Therefore, we are not only interested in the development of the River as a whole but it means much to us as a growing city" because "unless something is done very soon Atlanta is going to have a water shortage."²⁰ Six months earlier, in contrast, he wrote

¹⁹ Phase I Ruling, 9.

²⁰ Hartsfield to John Steelman, November 17, 1947. James C. Davis Papers, MSS 507, Series 13, Box 40, Folder 1. MARBLE (hereafter cited as Davis Papers).

Congressman John Kerr to state that “In view of Atlanta’s great military importance to the nation and of many uncertainties . . . that part of wisdom for the government to be prepared with plans for the building of this dam.”²¹

One year later, when Atlanta was asked to contribute matching funds, as had been requested of Dallas, Texas, for a similar project, Hartsfield chose to de-emphasize the Chattahoochee as a water supply source. In a letter to Georgia Congressman James Davis, Hartsfield stated:

Frankly, in our zeal I think we have just laid too much emphasis on the Chattahoochee as a water supply. . . . In our case the benefit so far as water supply is only incidental and in case of a prolonged drought. The City of Atlanta has many sources of potential water supply in north Georgia. Certainly a city which is only one hundred miles below one of the greatest rainfall areas in the nation will never find itself in the position of a city like Los Angeles. . . .in view of other possible sources of Atlanta’s future water we should not be asked to contribute to a dam which the Army Engineers have said is vitally necessary for navigation and flood control on the balance of the river.²²

Interestingly, once Atlanta was excused from bearing any costs of constructing Buford Dam, water supply conveniently slipped back into his appeals. Consider his 1951 annual address, made one year after initial work had begun on the dam site, when he asked “all patriotic citizens of metropolitan Atlanta, to inform themselves on this matter of future water supply upon which the very life or death of our community depends.

²¹ Hartsfield to John Kerr, June 18, 1947 Box 40, Folder 1. Davis Papers.

²² Hartsfield to James Davis, March 1, 1948. Davis Papers; Congressman Gerald Ford presciently asked Colonel Potter whether it was foreseeable that one day in the future Atlanta would begin to request greater amounts of water from the project. Corps officer Colonel Potter responded that the Corps would have to study the effect that such a request would have on power production. He said that the Corps would have to obtain additional water supply authorization if a request amounted to “a major diversion of water.” Eleventh Circuit ruling, 12.

When they do they will realize that it is the most important factor in our future, as well as in the national defense, as far as the Atlanta area is concerned.”²³

In fact, Hartsfield’s annual address also references the 1950 passage of the *Plan of Improvement*, which was another project that had occupied a great amount of his time and effort. This annexation program was designed for the city to triple its city limits and capture roughly 100,000 new citizens living in the unincorporated suburban fringes just outside of the city.

As previously explained, suburban sprawl was apparent by the early 1920s. The CPC had attempted curb the negative effects of decentralization through zoning restrictions but little was accomplished. By the 1940s, residential land use had broken through the city’s corporate limits in many places. Older residential areas around the central business core were in decline. “Slum clearance” work, resulting in the construction of eight public housing projects, cleared out what planners believed to have been some of the worst sub-standard housing. The downtown business district continued pushing north along Spring and Peachtree Street and east along Edgewood Avenue. Industrial land use followed the rail lines, which had sections along the northwest and southwest approaches that were fully industrialized within the corporate zone. Industry also pushed into former residential areas along the rail belt lines in central and southeast Atlanta.²⁴

The onset of the Second World War only made matters worse. None of the major manufacturing or wartime facilities were located in Atlanta proper. For example, the

²³ William B. Hartsfield, “1951 Annual Address,” January 1951, box 34, folder 1, MSS 558, William B. Hartsfield papers, Box 34, Folder 1, MARBLE.

²⁴ MPC, *Up Ahead*, 22.

“Atlanta” Army Depot was actually located at Fort McPherson in Clayton County, to the southwest of the city. Similarly, the Ford Motor Company constructed its assembly plant in the nearby Hapeville (southeast Fulton County) and General Motors based its operations to the northeast of Atlanta in Doraville (DeKalb County). Cobb County in particular flourished as a result of defense spending. Between 1940 and 1950 its population jumped from 38,272 to 61, 830, an increase of 61.6 percent. The Bell Bomber plant, originally estimated as \$15 million dollar construction project, eventually cost the War Department nearly \$73 million and employed over twenty-eight thousand workers at the height of its production in 1945. Although the facility closed down shortly after the war, the Lockheed Corporation moved into the plant in 1951 to produce B-47s and, later, C-130s. In addition, the army airfield, based at Candler Field, soon relocated to Cobb and became Dobbins Air Force Base, which would also later house a naval air station.²⁵

The differential population growth between the city and Fulton County alone was undeniably impressive. Between 1920 and 1950 the population of the Atlanta-Fulton County area increased by 90 percent. The fastest growing portions, however, were north of the city proper. While the City of Atlanta’s population increased by 65 percent in this period, from 200,214 to 331, 314, the county population outside the city grew by a staggering 185 percent, from 60,330 to 172,128. And although the economic benefits that Bell Bomber and other defense-related industries bestowed on the metro area were

²⁵ For the location of these plants see, Bradley R. Rice, “Atlanta: If Dixie Were Atlanta” in *Sunbelt Cities: Politics and Growth Since World War Two*, eds. Richard M. Bernard and Bradley R. Rice (Austin: University of Texas Press, 1983), 33, 36-37; For the cost of the Bell Bomber plant and the number of its employees, see Thomas Allan Scott, *Cobb County, Georgia, and the Origins of the Suburban South: A Twentieth-Century History* (Marietta, Ga.: Cobb Landmarks and Historical Society, 2003), 137; For Cobb County population figures, see U.S. Department of Commerce. U.S. Bureau of the Census, *U.S. Census of Population: 1950, Vol. II. Characteristic of the Population, Part II Georgia*, (Washington, D.C., 1952), 11-9.

substantial and no doubt welcomed by many, they only seem to have reignited in other observers the long-simmering fears that Metropolitan Atlanta's gains were the City of Atlanta's losses. The result was the revitalization of efforts to expand the City of Atlanta through annexation of unincorporated portions surrounding the city and the prompting of calls for forthright metropolitan planning.²⁶

Hartsfield consistently championed annexation as a remedy to what he termed the scourge of "suburbanitis," i.e., suburbanites who made their living in Atlanta but left its governance to others. The flow of population into unincorporated Fulton, he and other expansionist advocates argued, had gradually resulted in the county government moving into the "city government" business and ultimately led to the unnecessary paralleling of public services. With the exception of water distribution, which the AWW sold at double rate to Fulton County residents, virtually every other service such as streets, lights, drainage, police and fire protection, and hospitals were performed by both the municipal and county governments. What is more, because residents in unincorporated Fulton paid less in annual property taxes and the county lacked authority to levy license taxes on merchants, the higher taxes paid by those living in the city were effectively subsidizing repetitive county services.²⁷

For Hartsfield, this "crazy quilt" of local government was an untenable situation. From his first days as mayor, Hartsfield pointed to what he deemed an imbalance of city and county service expenditures and recommended that the county take a "greater share" of the burden. Frustrated by "the logical outgrowth of the disunity and selfishness that

²⁶ Rice, "The Battle of Buckhead," 7.

²⁷ Ibid, 4, 17-25; Martin, *William Berry Hartsfield*, 85; for a summary of the taxation differences between Atlanta residents and Fulton County residents, see Local Government Commission, *Plan of Improvement for the Governments of Atlanta and Fulton County, Georgia* (Atlanta: Local Government Commission, 1950), 69-70, 82-84 (hereafter cited as LGC, *Plan of Improvement*).

seems to exist in the Atlanta metropolitan area,” he flatly stated: “Frankly it sounds a little ridiculous to us of the corporate city to be told of the marvelous and wonderful future and what bold plans we ourselves must make, and then be stopped cold every time we attempt to enlarge our city and thus simplify many local problems and insure our own orderly expansion . . .”²⁸

The mayor later reminded a radio audience about the contributions the City of Atlanta made in both metropolitan and state development and why allowance of expansion was necessary. He argued:

Its stagnation would hurt all Georgia as well as its own suburbs. Its great water system made possible the growth of its suburbs and their industrial expansion. Its water is used free by county schools; its fire department goes into the suburbs free of charge and fights fire with water provided by this city. Its great airport and other facilities are used by all the people for miles around. It is a good neighbor whose services would be sorely missed and whose misfortune could not but affect adversely all of us alike.²⁹

Only annexation, Hartsfield reasoned, could solve this dilemma.

Fortunate winds began to blow the mayor’s way when in 1949 a consortium of interests rallied around Hartsfield’s pleas. Hartsfield, the Chamber of Commerce, and various Fulton and DeKalb legislative delegates prevailed upon the General Assembly to establish a study group of “disinterested and unbiased citizens” for “the purpose of improving local governments and providing greater efficiency and economy; to provide

²⁸ Hartsfield letter to R.W. Woodruff, 15 September 1948, Box 29, Folder 2; Hartsfield, “1946 Annual Address,” January 1948, box 34, folder 1, Hartsfield Papers..

²⁹ Text of Hartsfield WGST radio speech, n.d., Box 29, folder 2, Hartsfield Papers.

that said Commission may draft a plan or plans for such improvements to the governments of Fulton County and the City of Atlanta.”³⁰

In its 1950 report, *The Plan of Improvement for the Governments of Atlanta and Fulton County Georgia*, the newly-created Local Government Commission (LGC) pressed forward with the topic of Atlanta’s expansion. Echoing much of Hartsfield’s rhetoric, it claimed that “a city that cannot grow is destined to become a dead city.” Avoiding the politically-charged term “annexation,” the commission advocated for the passive expansion of the City of Atlanta accompanied by a re-shuffling of service responsibilities between the city and county. Among its specific recommendations was the absorption of approximately 82 square miles of unincorporated territory to the city’s land area, a complete reassessment of property taxes, and, as will be discussed in greater detail below, the continuation and expansion of water distribution services by the City of Atlanta.³¹

Voters in the upscale Buckhead community, led primarily by the prestigious Buckhead Fifty Club, who had argued that annexation would lead to higher taxes without improved services, soundly rejected similar annexation attempts in 1941 and 1947. Opposition continued to appear in various guises, from homeowner piqued by the prospect of higher taxes, county

³⁰ Acts and Resolutions of the General Assembly of the State of Georgia. Vol. 1, p. 219. Law #208 (SB 6), <http://neptune3.galib.uga.edu/ssp/cgi-bin/legis-idx.pl?sessionid=7f000001&type=law&byte=198925318>; Hartsfield, “1951 Annual Address.”

³¹ LGC, *Plan of Improvement*, 23, 37-39, 52.

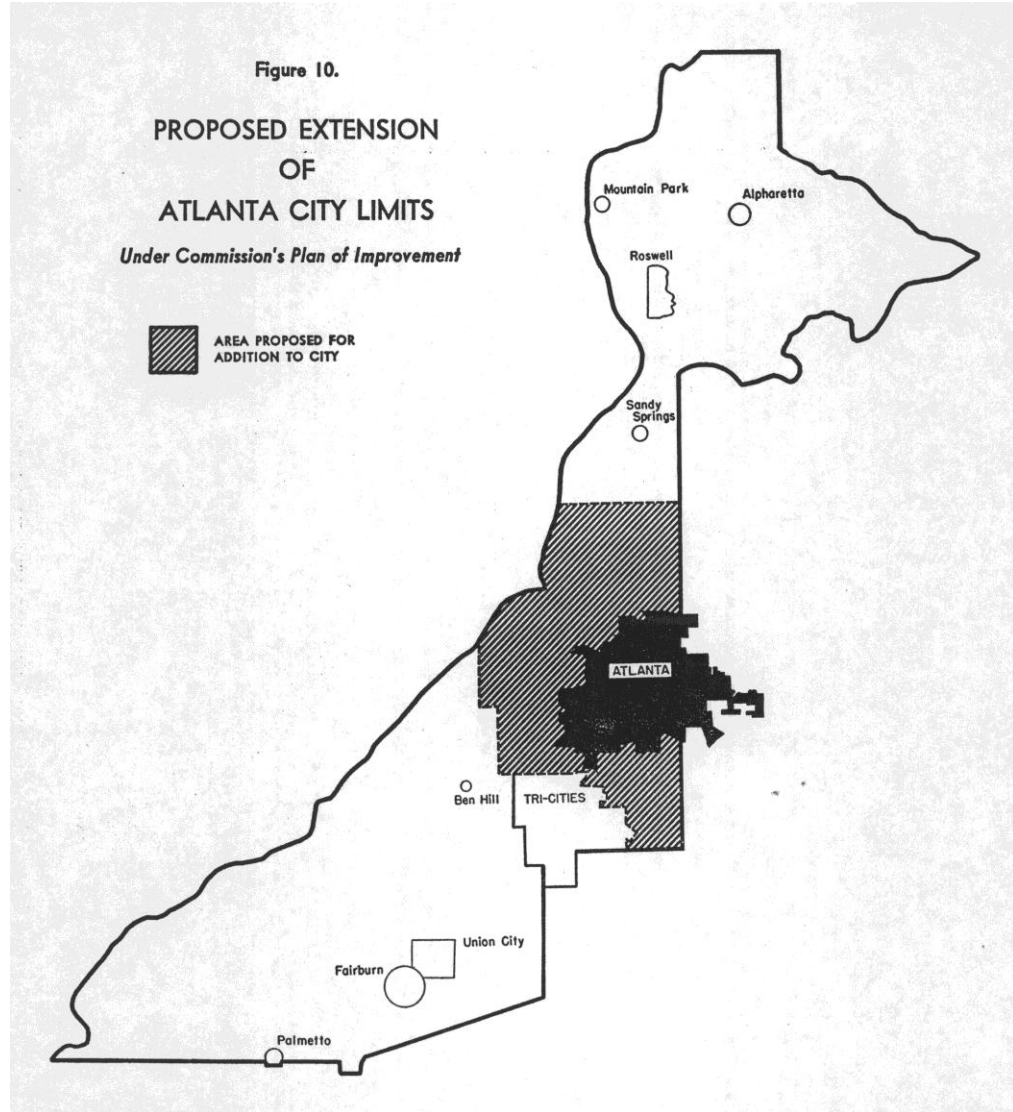


Figure 2.3 – Proposed Annexation Area, 1950. (Source: Local Government Commission, *Plan of Improvement*, 1950), 43.

officials who jealously guarded their local control, and others who preferred city-county consolidation to annexation. To address the latter, the commission maintained that complete consolidation of Atlanta and Fulton County was “not adaptable” because the county’s 60-mile length and vast rural areas would make uniform municipal services virtually impossible. To uneasy homeowners, pro-annexation forces countered that any increases in property taxes would be offset by reductions in water and fire-insurance rates charged to unincorporated customers.³²

The unified support of groups such as the Chamber of Commerce, the League of Women Voters, the Fulton County Grand Jury Association, and the Parent-Teachers Association were apparently enough to allay any lingering doubts. On June 29, 1950, voters in both the city and in the areas to be joined to it overwhelmingly approved “the Plan of Improvement” take effect at 12:01 a.m. on January 1, 1952. On that New Year’s Day, the *Atlanta Journal* proclaimed that, by adding 100,000 new citizens and trebling its land area, “in one gigantic stride the city broke the rusty chains of corporate limits that had restricted its growth for 20 years.”³³

Significantly, the LGC also indicated a need to establish a “master plan” for future metropolitan development. This responsibility would be handled by the Metropolitan Planning Commission, which the Georgia General Assembly established in 1947 as Metropolitan Planning Commission (MPC) as the first publicly-supported, multi-

³² The Atlanta Water Works was permitted by law to charge double rates customers living outside the city limits. Similarly, many of these homeowners paid fire insurance rates that nearly doubled those paid by Atlanta residents. Ibid, 31, 49, 50, 76, 88; For a more detailed view of rating differences and rates paid for fire insurance between Atlanta and the Buckhead community, see Letter from Manry and Heston Insurance Agents to Hartsfield, n.d., Box 29, folder 1, Hartsfield Papers; in 1958 the AWW claimed that, “as a result of improved service in the annexed areas, substantial reductions have been made in fire insurance rates, which are saving the citizen-taxpayer over \$1,000,000 a year in fire insurance premiums.” City of Atlanta, Department of WaterWorks, “Atlanta Grows Where Water Goes,” (1958), 17.

³³ Rice, “The Battle of Buckhead,” 14-15; *Atlanta Journal*, 1 January 1952.

county planning agency in the United States. Comprised of a fourteen member commission that included the mayors of Atlanta and Decatur, various appointed (white) residents, and a consultant staff specializing in various urban services, the MPC's mandate was to conduct research, surveys, and conferences for the creation of "master plan" to guide the "orderly growth and development" for all the territorial area of Fulton and DeKalb counties (the "Metropolitan Planning District").³⁴

In their attempt to reconcile downtown concerns with metropolitan development and expansion, the three reports issued by MPC between 1951 and 1954 are emblematic of a fundamental re-conceptualization of the relationship between the city and its hinterland that was taking place within the urban planning community. From Metropolitanist plans such as Daniel Burnham and Edward Bennett's *Plan of Chicago* (1909) and Thomas Adam's *Plan of New York and Environs* (1929) they borrowed visions of a monumental city center that served as the financial and cultural core of a larger urbanized area. As scholar Carl Abbott argues, for most urban planners during the mid-twentieth century, the central business district remained "the unitary center of the metropolitan area" and, as a result, the assumption that everyone wanted to get downtown "defined the logical focus of planning activity as the improvement of access and circulation."³⁵

³⁴ MPC, *Now . . . For Tomorrow*, 27.

³⁵ A detailed examination of this shift in the urban planning paradigm is contained in Robert Fishman, ed. *The American Planning Tradition: Culture and Policy* (Washington, D.C.: The Woodrow Wilson Center Press, 2000). Especially valuable chapters include: Robert Fishman, "The Urban Planning Tradition: An Introduction and Interpretation," 1-29; Carl Abbott, a professor in Urban Studies and Planning, argues that the interpretation of downtown as the unitary center was a construct that held sway until approximately 1955, when it then gave way to the view of downtown as "a failing real estate market." Carl Abbot, "Five Strategies for Downtown: Policy Discourse and Planning Since 1943," in Sies and Silvers eds., *Planning The Twentieth Century American City* (Baltimore: John Hopkins University Press, 1996), 408, 410.

These planners were also influenced by regionalists such as Lewis Mumford and Benton MacKaye who advocated population decentralization and functional separation both in and beyond the urban core through the use of improved highway and communication systems and zoning restrictions. But unlike the traditional regionalists who viewed this “American middle ground” as the locus of artisanal lifestyle, folk culture, and indigenous landscape, i.e., a source of alternative values needed to reform the homogenizing affects of metropolitanism, these “metropolitan regionalists” viewed regionalism as resource development to be managed from the center. In short, it was a recipe for sustained, corporate-driven and federally subsidized economic development rather than a normative model of adaptive social behavior.³⁶

That Atlanta’s planners and leading businessmen and politicians embraced this “metropolitan regionalist” outlook is clearly evidenced in MPC’s various reports. For example, its second preparatory report, *Up Ahead: A Regional Land Use Plan for Metropolitan Atlanta*, argued that initial developmental efforts should be concentrated in a 300 square mile “urbanized core” that extended for a radius of 10 miles beyond downtown Atlanta. This “primary planning area” would include the City of Atlanta, most its home county of Fulton, and parts of the neighboring DeKalb county but also provide for the development of “satellite communities” that would “skip” 15 to 50 miles beyond the urban boundary. It also made clear reference to a defensive strategy to justify dispersal, noting that “our target value to a potential enemy—and our chances of survival if we do get bombed—can depend on how well we scatter our plants and facilities.” The actualization of this regional plan, its authors hoped, would make Atlanta “unique among

³⁶ John L. Thomas “Holding the Middle Ground,” 33-64; Robert Fishman, “The Metropolitan Tradition in American Planning,” 65-85, both in Fishman, ed. *The American Planning Tradition*.

American cities for its open downtown area, its well-planned use of rolling land, its decentralized homes and factories, and its web of efficient highways.”³⁷

Unlike *Up Ahead*, which summarized recent trends as a justification for action, the actual master plan, *Now . . . For Tomorrow*, provided a more detailed sketch of the probable distribution of people and industry in 1980. To that end it designated where and how residential areas, industrial and commercial zones, and transportation routes should be designed to facilitate “the best and most economical use of every parcel of land in our community.” Downtown resurgence was prominently featured, with special emphasis placed on eliminating substandard sections, alleviating traffic congestion to increase auto circulation, and creating new office for the CBD’s distinct role as “Golden Heart” of the future metro area.

Reflecting the contemporary preoccupation with combating blight through urban renewal, residential neighborhoods were designated in one of three types: *development areas* in outlying districts where new subdivisions and construction would occur; *mature areas* that contained the bulk of the exiting population that would need protection from heavy traffic, inadequate facilities, and encroachment of incompatible land uses; and renewal areas in centrally located neighborhoods that were marked for “far-reaching programs of rehabilitation and redevelopment.” Moreover, recommendations for improved neighborhood services such as street design and the strategic placement of schools, hospitals, and parks in both extant and future residential areas were made according to the schematic. Lastly, specific zones for both commercial and industrial sites were suggested for outlying suburban areas based on Atlanta’s growing importance as a regional distribution center and on the notion that decentralization was actually

³⁷ MRC, *Up Ahead*, 7, 10, 27, 54.

“helping to ‘unclutter’ the downtown district, enabling it to perform its unique function as the central core,” i.e., regional functions such as business, finance, culture and entertainment and metropolitan functions including medical, government, and certain retail services.³⁸

That race was caked onto the collective consciousness of southerners and that it provided a subtext with which to interpret Atlanta’s development is well documented. In a 1943 letter to a few hundred “gentlemen” living in the proposed annex areas of Buckhead and Druid Hills, Hartsfield revealed more than one motivation for city expansion.

Although the letter began with a discussion of the higher tax and fire insurance rates paid in their respective communities, it soon shifted to the question of white outmigration and black political power. Hartsfield wrote:

The most important thing to remember cannot be publicized in the press or be made the subject of public speeches. Our negro population is growing by leaps and bounds. They stay right in the city limits and grow by taking more white territory inside Atlanta. Outmigration is good, white, home owning citizens. With the Federal government insisting on political recognition of negroes in local affairs, the time is not far distant when they will become a potent political force in Atlanta if our white citizens are just going to move out and give it to them. This is not intended to stir racial prejudice because all of us want to deal fairly with them; but do you want to hand them political control of the city?

Hartsfield would soon begin to “deal fairly” with African-American demands as the black community began to constitute a more sizable voting bloc. But that Hartsfield equated a well-run Atlanta with a white-run Atlanta should be no surprise.³⁹

Similarly, the MPC made provisions for the dilution of black voting power through its metropolitan plans. *Up Ahead*, citing the need “to offset growing downtown

³⁸ MPC, *Now . . . For Tomorrow*, 14, 32, 37, passim.

³⁹ Hartsfield Letter to “Gentlemen,” 7 January 1943, Box 29, folder 1, Hartsfield Papers.

congestion and tensions resulting from overcrowding,” argued that “the wise thing to do is find outlying expansion areas to be developed for new colored housing.” This could be accomplished, the MPC posited, by using funds from the Atlanta Housing Authority, which had the capacity to assemble the land and sell it to private builders.⁴⁰

In what may seem a case of lambs frolicking with lions, Atlanta’s black political leadership endorsed the “Plan of Improvement” and worked for its adoption through the Atlanta Negro Voters League and the Atlanta Urban League. This action may be understood, according to historian Bradley Rice, as indicative of not only a debt that black leaders felt they owed Hartsfield and Chamber of Commerce president Elbert Tuttle for their recent overtures to the African American community but also of their own conviction that “what was best for the city was best for their community within it.” But as years passed, blacks became more reticent about such grand compromises. Angered by the lack of consultation with regard to initial post-war planning and how urban renewal policies either destroyed downtown neighborhoods and businesses or relocated them to the outskirts, African Americans on the verge of political control by the 1960s and 70s rejected subsequent attempts to add new white voters through annexation.⁴¹

ENGINEERING “THE PLAN,” 1952-1962

On the morning of January 1, 1952, the *Atlanta Journal* welcomed 100,000 new Atlantans into the city, proclaiming it as “another momentous event” that was comparable to “the city’s rise from the smoldering ashes Sherman left behind him in 1865.” It was a smart, although not wholly sagacious, comparison. As with the post-

⁴⁰ MPC, *Up Ahead*, 88-90.

⁴¹ Rice, “Battle of Buckhead,” 17-18; Bayor, *Race*, 71.

Civil War rebuilding effort, the post-WWII era was marked by a booster's enthusiasm for organized civic promotion to achieve economic expansion, what many have labeled as the indomitable "Atlanta Spirit." But whereas the earlier effort took place in a burned down town with little more remaining than an existing street pattern, Atlanta's latter-day policymakers would have to navigate through dense constellation of competing municipalities, aging technologies, and growing environmental hazards. The newspaper's writers may have actually sensed the comparison's semantic dissonance because they included, tucked in a few pages later, the announcement that the AWW was to embark on a \$10 million expansion program by the end of 1952 to provide water service to perhaps 50,000 new customers, a costly project that would have been almost unthinkable in 1865 when there was no city water system that could have fought Sherman's fire.⁴²

After years of trying to convince voters to approve the Plan of Improvement, politicians, planners, and engineers now had to turn their attention to the mission of implementing the infrastructural improvements it prescribed. The extension of water services to the annexed areas was a major component of the plan and its inclusion seems to have been a major selling point for Fulton County residents. In fact, they may have come a little too late. During 1949, for example, Fulton County sought legislative approval to construct and operate its own water supply system. Fulton County Commissioner I. Gloer Hailey argued that water service was needed for thickly populated unincorporated areas such as Ben Hill in the southwest section of the county. "If the city system can't or won't provide the water," Hailey declared, "then the county will have to find a means of doing it, even if it means another water system for metropolitan Atlanta." Atlanta City Councilman James E. Jackson, chairman of the council's Water Committee,

⁴² *Atlanta Journal*, 1 January 1952; *Atlanta Journal Constitution*, 8 June, 1986.

was non-plussed by the commissioner's threat, however. "It's all right with me if they want to finance it solely with county funds raised outside the city limits of Atlanta," he responded. "I'll add this prediction: They'll bankrupt the county government in attempting it." He further added that the AWW was reviewing the allocation of perhaps one-third of its water revenue profits for possible expansion into the areas in question, but that it was ultimately a "problem of engineering and financing" and that the City's first priority was to its own citizens.⁴³

This tête-à-tête is illustrative of the contentiousness of metropolitan water debates and the AWW's role as a service provider. Despite the exaggerated talk that emanated from Hartsfield's office about the city being ready to supply water for the entire metropolitan region's residential and industrial needs, more restrained voices understood all too well the time and cost of such capital-intensive projects. For Jackson, the AWW was first and foremost a department within the City of Atlanta, and one with limited funding capabilities. It would therefore need to concentrate primarily on its existing service area and then attempt any expansions in well-planned stages.

The consulting engineering firm which had designed most of Atlanta's water treatment and wastewater facilities during the twentieth century was also more circumspect than those in Hartsfield's administration about the AWW's ability to supply the entire area. In their 1957 report on construction requirements for upcoming fifteen years, the consulting engineers of Wiedeman and Singleton recommended that "future planning for the city's water works be confined to Fulton County, to that part of Atlanta lying in DeKalb County and such customers in Clayton County as are now served." The firm based this recommendation on the fact that adjoining counties had begun to develop

⁴³ Ibid, 9 February 1949, 22 February, 1949, 11 October, 1949.

water supplies from the Chattahoochee River and other sources and that these facilities were adequate for present needs and could be extended to meet future requirements.⁴⁴

But as Hailey, Hartsfield, and the authors of *Up Ahead* and the *Plan of Improvement* insisted, water “is a regional, not local, problem.” As the sole distributor of water in the Atlanta-Fulton County area, the AWW “must accept the responsibilities that go with a monopolistic position.”⁴⁵

The *Plan of Improvement* would ultimately be the first crucial step in taking on that greater “responsibility.” The LGC, for its part, was content to place immediate focus on the proposed annexation area. Recognizing the advanced state of the AWW system and the desire to avoid duplication of services, it stated, “The Atlanta Water Department in effect has a public monopoly for water services in the Fulton County area” and “as it would be wasteful for the county to set a competing water system for the outside area, the Commission believes that the city’s monopoly should be continued.” But despite the extensive network of mains within the new limits, AWW managers estimated that one-third of all families in the new area were not connected to the system and there remained fairly large sections that did not receive city water at all. The commission therefore called for the City of Atlanta to extend water services to the area in a way similar to that furnished within the city limits. To avoid undue stress on the city’s finances, it recommended that a period of four years after the effective date of the extension of city limits should be allowed for completing the extension of water mains in the new area. Lastly, after noting that the city was allowed by law to charge double rates in

⁴⁴ Wiedeman and Singleton, *Report on Water Supply for the City of Atlanta, Georgia* (January 1957), 7-10.

⁴⁵ On metropolitan development and water, see Martin, *Hartsfield*, 126; MPC, *Up Ahead*, 96; LGC, *Plan of Improvement*, 52.

unincorporated Fulton County, the Commission also called for the AWW to adopt a considerably more liberal policy on water distribution in the adjacent area outside the new city limits.⁴⁶

The Commission's recommendation for the maintenance of an AWW "monopoly" was based on the advanced state of AWW operations as well as the shape of Fulton County. Of the AWW's 75,000 water meters, for example, roughly 60,000 were located within Atlanta's pre-annexation borders, some 14,000 were in unincorporated Fulton County, and nearly 600 were in unincorporated areas of DeKalb. In addition, the water department sold water to the governments of Hapeville, Marietta, Smyrna, and Forest Park. Fulton County has a peculiar shape. Totalling 523 square miles, it is about 60 miles long from the northern tip above Alpharetta to the southern tip near Palmetto. At some points, between Sandy Spring and Roswell to the north, it is only 2 ½ miles wide; at others it is as much as 20 miles wide. Furthermore, the City of Atlanta and its surrounding suburbs comprised the densest areas of development. It seems then that economies of scale dictated that the AWW should extend its distribution pipes into these areas.⁴⁷

⁴⁶ *Plan of Improvement*, 52.

⁴⁷ *Ibid*, 1-2, 52.

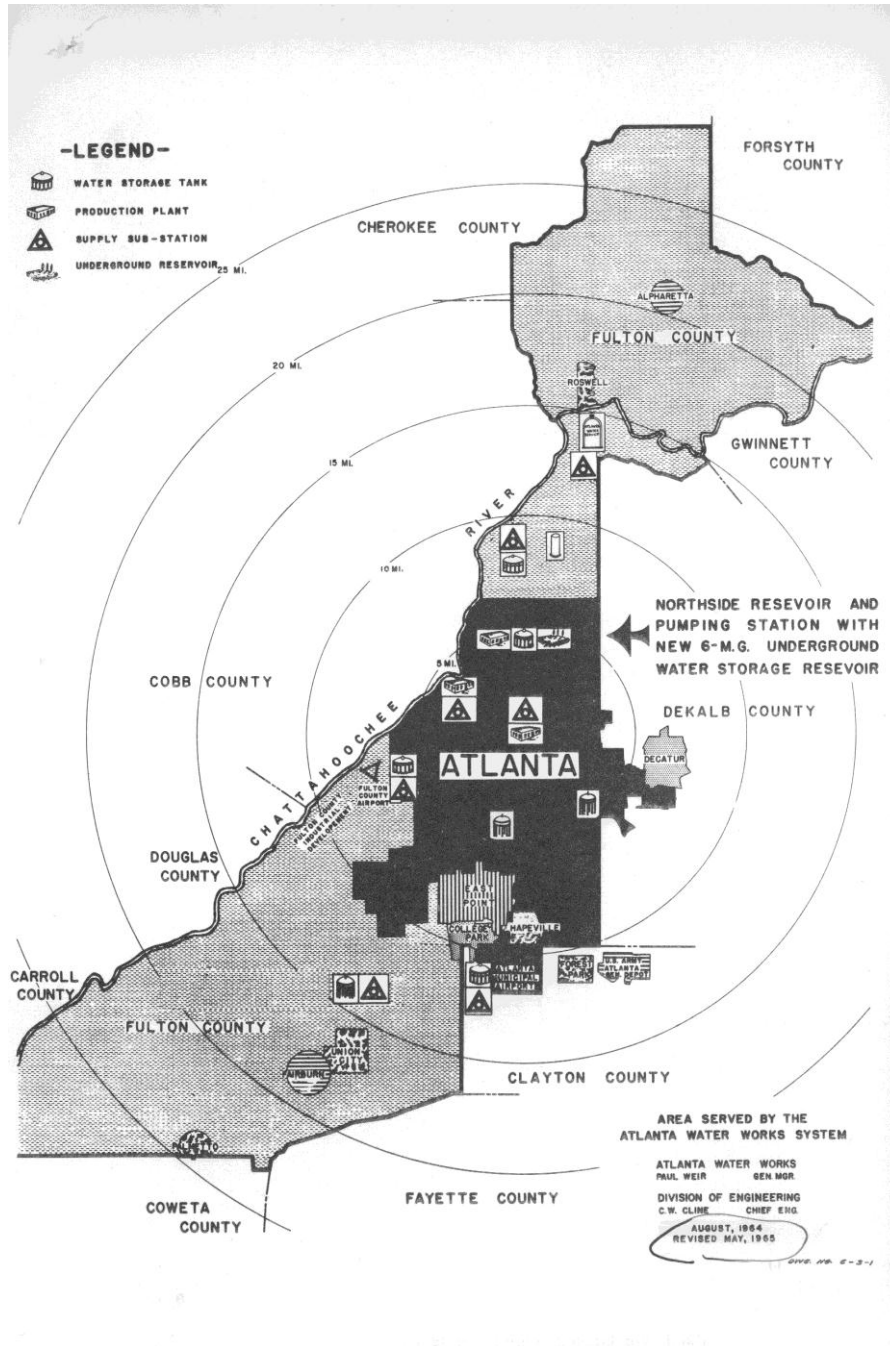


Figure 2.4 – AWW Service Area, 1965. (Source: City of Atlanta, Department of Water, “The Story of Atlanta’s Water” 1969).

Unlike the Commission's four-year plan, the AWW's 1952 response came in the form of a more ambitious ten-year multi-million dollar expansion program. Conceived and directed by AWW General Manager Paul Weir, it was divided into two five-year programs designed for the two-fold purpose of supplying adequate water service to the annexed areas and to provide for future expansion of the system. The programs were to cost one million dollars per year and provide for distribution pipe extensions, additional storage tanks, and construction of a second waterworks system near the Chattahoochee River to complement the existing Hemphill plant.⁴⁸

Weir was a seasoned veteran of the AWW and no doubt a capable manager. Joining the department in 1928 as a recent Georgia Tech graduate, Weir first worked as a chemical laboratory technician before becoming superintendent of filtration, where his experiments in corrosion control and protective pipe lining were rewarded with the international Goodell prize in 1941. By 1948, when Weir was recognized as "one of the leading waterworks authorities in the county," Weir was elected to replace the retiring W. Zode Smith as AWW General Manager.⁴⁹

Work on the first phase began immediately. Within the first eight months of construction, nearly fifty miles of water pipes had been laid, enough to supply a population of between 20,000 and 25,000. All told, between 1952 and 1958, a total of 460 miles of cast iron and steel water mains and 25,400 service meters were installed,

⁴⁸*Atlanta Journal*, 1 January; 24 January 1952.

⁴⁹*Atlanta Journal*, 9 September, 1948.

19,697 feet of mains were cleaned, and two elevated storage reserves and a new pumping station were added to boost filtered water pumping capacity to the new areas.⁵⁰

Under Weir's tenure, however, the AWW resolved to not simply meet the needs described in the *Plan of Improvement* but also to prepare to meet future metropolitan needs. Although the AWW in 1952 supplied just under 60 MGD of water to 452,000 customers, they project that by 1970 their customer base would climb to near 650,000. Here they relied on demographic forecasts, provided by the MPC, which anticipated the population of Fulton, DeKalb, Cobb, and Clayton counties to reach 1 million by 1970. Based on these projections, the AWW reasoned that 20 MGD additional capacity would be needed to prevent overload of the existing 72 MGD Hemphill Treatment Plant. This would necessitate further system expansion, which resulted in the proposed construction of the Chattahoochee River Treatment Plant.⁵¹

Completed in 1960, this facility was hailed as an achievement that would “assure the city ample water for 25 years.” Electrically controlled and consisting of a river pumping station, two filtered water supply mains, two storage reservoirs, and two secondary pumping stations, it was to operate independently of the steam-powered Hemphill plant so that the city would always have water in case one system should unexpectedly shut down. Initially producing 20 MGD, it was designed for an ultimate capacity of 60 MGD to be developed by progressive additions as demand dictated.⁵²

⁵⁰ City of Atlanta, Department of Water Works, “Atlanta Grows Where Water Goes,” (1958), 17; *Atlanta Journal*, 2 February; 16 August, 1952.

⁵¹ City of Atlanta, Department of Water Works, “Chattahoochee River Treatment Plant Dedication,” 1960): No pagination.

⁵² *Ibid*; *Atlanta Constitution*, 17, January, 1960.

But what dictates demand? It is standard engineering procedure to design facilities so that they are capable of handling peak daily demands (or loads). In the case of water supply facilities, the peak demand is normally considered to be one-and-a-half-the daily average water demand.⁵³ The question remains whether water utilities try to encourage water use. This would be consistent with the intent of both the *Plan of Improvement* and the MPC's master plan, which essentially sought to aggrandize the City of Atlanta by defining a core area for development within a larger metropolitan area. In doing so these metropolitanist plans also provided the rationale and means for the natural expansion of the city's water system, which in turn fostered population increases.

It is in this context that the AWW's growth appears to be consistent with the scaling up of operations that took place among public utilities during the mid-twentieth century, particularly after the basic technological processes became skillfully routinized by technically trained managers. Historian Richard Hirsh argues, for example, that by the 1930s the electric utility industry had established a "grow and build" strategy as their basic managerial approach. In addition to promotional pricing, this strategy, which would dominate the industry through the 1970s, depended on the development of large-scale technology that offered decreasing unit costs. Moreover, this managerial approach was based on the presumption that new technology would become more efficient and less costly (per unit of power output). The result was that the strategy simply encouraged the growth in customer usage of electricity so that utility companies would need to install new power units.⁵⁴

⁵³ Atlanta Regional Commission, *Regional Water Supply Plan* (June 1983) 4-5.

⁵⁴ Hirsh deals primarily with technological stagnation and how it contributes to industrial decline. He argues that the development of a managerial culture dedicated to expansionist strategies and declining

Although one should guard against pushing the analogy between electric and water utilities too far, Hirsh's insights, broadly construed, provide a foundation for interpreting AWW activities in the post-war period.⁵⁵ The AWW was an engineering-centered municipal department committed to expanding both the Atlanta metropolitan region and its own operations within that sphere. And in Weir the AWW selected a transitional figure for what was proving to be a transformative time in Atlanta's history.

The AWW's actions were more than a deliberate response to new population demands precipitated by the *Plan of Improvement*. Instead, the AWW was seeking to build demand and capture future customers within an expanding metropolitan area. By the 1950s the AWW utilized increasing returns to scale in order to produce an undifferentiated commodity to an expanding customer base that would extend 25 miles beyond the city center. And as its mid-century slogan "Atlanta grows where water goes" suggests, the AWW was a prime facilitator of metropolitan development. By the early

economies of scale allowed for unequalled productivity growth and declining unit prices throughout the industry. Yet he maintains that this approach left managers ill-prepared to deal with technological, regulatory, economic, and public relations problems that emerged during the 1970s. Richard F. Hirsh, *Technology and Transformation in the American Electric Utility Industry* (Cambridge: Cambridge University Press, 1989), 16, 21.

⁵⁵ Electricity was of course a novel technology in the early twentieth century whose potential had to be demonstrated to a skeptical public. Similarly, each industry had its own set of particular technical problems to work through: whereas electricity producers grappled with load factor diversification and thermal efficiencies, water managers had to overcome treatment-related issues and the prevention of head loss over varying topographical conditions. It is interesting to note, however, the striking similarity between the basic laws governing hydraulic flow and electric current. In fact, in the 1930s T.R. Camp, a Professor of Sanitary Engineering at MIT, and H.L. Hazen, a Professor of Electrical Engineering also at MIT, applied an Electric Network Analyzer, based on a similar method used to detect problems in the distribution of electricity, to the analysis of pipe distribution networks. For a brief summary of technological concerns facing early managers and engineers in the electrical industry see, Harold L. Platt, "City Lights: The Electrification of the Chicago Region, 188-1930," in *Technology and the Rise of the Networked City in Europe and America*, eds. Joel Tarr and Gabriel DuPuy (Philadelphia: Temple University Press, 1988), 246-281; For concerns in water distribution networks, see Godfrey A Walters, "Optimal Design of Water Distribution Networks," in E. Cabrera and F. Martinez eds. *Water Supply Systems: State of the Art and Future Trends* (Southampton UK: Computational Mechanics Publications, 1993), 91-117; for information on the Electronic Network Analyzer, see Dhandayudhapani Ramalingam, Srinivasa Lindireddy, and Lindell E. Ormsbee, "History of Water Distribution Network Analysis: Over 100 Years of Progress," in Jerry R. Rogers and Augustine J. Fredrich eds. *Environmental and Water Resources History*, Proceedings and Invited Papers for the ASCE 150th Anniversary (Washington DC, 2002) 60-61.

1960s, even before further additions to the Chattahoochee plan, it would raise total system capacity to 112 MGD, the AWW supplied water to 57 percent all of households connected to public water systems in the five-county SMSA area at precisely 1 cent per barrel consumed. In addition, although industrial customers remained a fraction of total users, the AWW supplied, as Hartsfield never tired of telling people, heavy hitters such as Lockheed, Ford, Candler Field, and the Dixie Coca-Cola Bottling Company. With a total rated capacity of 92 MDG, the “giant of the metropolitan area” alone could treat more water in a single day than all of other metro water systems combined.⁵⁶

Equally important was the revenue that such large-scale operations provided to the City of Atlanta. By 1965, for example, the AWW generated \$8.5 million from annual cash water sales, up from \$5.1 million in 1952. Interestingly, however, the AWW retained and spent only 28 percent of every dollar it collected each year, with half of that dedicated to ongoing operations and the other half allocated to retiring water revenue certificates that funded previous expansions. By law, city schools received 30 percent of water revenue. And the city government ordinarily used about 42 percent for general city operations that were in no way concerned with the water works. Consequently, an expanding AWW effectively plowed money into the city’s treasury, supplying roughly 15 percent of Atlanta’s revenue.⁵⁷

⁵⁶ In 1966 and 1972, the Chattahoochee River Treatment Plant was again expanded to provide 50 MGD. Atlanta Region Metropolitan Planning Commission, *An Inventory of Water and Sewer Systems in Metropolitan Atlanta: A Technical Supplement* (Atlanta, 1963), 3-4 (hereafter cited as ARMPC, *Technical Supplement*); Existing records do not indicate the exact percentage of industrial water use provided by the AWW during the period in question. MPC records for 1950, however, indicate that manufacturing accounted for less than 20 percent of economic activity in Metropolitan Atlanta. MPC, *Up Ahead*, 46; water price, see City of Atlanta, Department of Water Works, “The Story of Atlanta’s Water Service” (1965): no pagination.

⁵⁷ City of Atlanta, Department of Water Works, “1963 Annual Report,” (January 1964): 1; *Atlanta Journal*, 26, August, 1951; 7, April, 1952, 29 April, 1954.

The AWW's circulation of booklets that promoted water supply operations and the MPC's use of the second-person narrative were integral factors in the creation of what urban scholar Seymour Mandelbaum has termed "deep communities of mutual obligation." Consider, for example, the inclusive language of MPC reports that relied on personal pronouns: "how can we make the best and most economic use of every parcel of land? How can we provide for the most efficient movement of goods and people?" The MPC's choice of phrasings, like "the answer must come from you—the citizen" was a deliberate attempt not only to convey that regional planning "is the key to our metropolitan future" but also a way invest citizens with responsibility for carrying out these plans. Likewise, AWW circulation of booklets containing the slogan "Atlanta Grows Where Water Goes" was instrumental in engaging AWW customers. During in the 1950s this promotional campaign featured the cartoon character "Willing Water" making comparisons between the price of water and the higher costs of meat, bread, gasoline, ice, all under the declaration that "Atlanta's pure water supply is cheaper than dirt" served to bury the engineering problems of a city department and encourage the development of water consuming technologies such as industrial cooling towers, dishwashers, and garbage disposals.⁵⁸

⁵⁸ Seymour J. Mandelbaum, "Cities and Communication: The Limits of Community," in Tarr and DuPruy, *Technology and the Rise of the Networked City*, 309 -321; MPC, *Now ... For Tomorrow*, 1; *Up Ahead*, 9; Royce Hanson, "Rethinking Urban Water: Its Institutional Future," in Howard Rosen and Ann Durkin Keating eds. *Water and the City: The Next Century* (Chicago: Public Works History, 1991):15- 26; "Atlanta Grows Where Water Goes," AWW, 19.

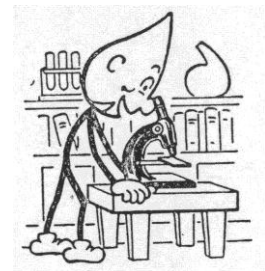
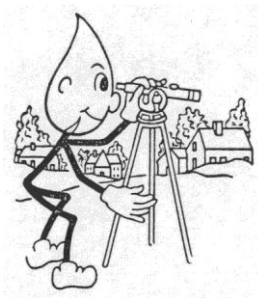
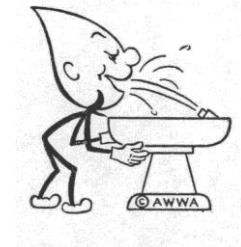
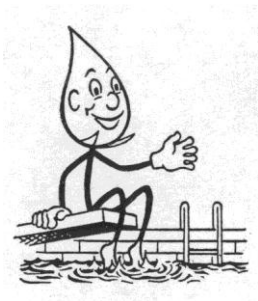
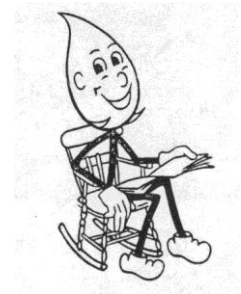


Figure 2.5 – “Willing Water.” (Source: Atlanta Water Works “1958 Annual Report”)

CONCLUSION

During the years immediately following WWII, Atlanta found itself in an unsettling position with regard to its future water supplies. Like most other large American cities in the first half of the twentieth century, Atlanta operated a municipally-owned, centralized water system. This network of facilities and distribution pipes utilized improved treatment and filtration techniques to provide increased capacity for local economic development and population growth. Technological developments such as these were insufficient, however. Typical of other cities of this period, Atlanta experienced urban growth that was increasingly characterized by metropolitanization and suburbanization. But unlike Houston, which was able to meet its regional water demands by supplementing its groundwater reserves with the plentiful waters of the nearby San Jacinto River, and unable to reach into distant sources as Los Angeles had done with the Owens Valley, Atlanta was forced to rely on the inconsistent flows of the Chattahoochee River for its source of water.¹

To Atlanta's good fortune, the federal government stepped in and financed the construction of Buford Dam. Intent on fostering Southeastern economic development and buttressing national defense in the post-war decades, Congress had proposed constructing a series of multi-purpose dams along the Apalachicola-Chattahoochee-Flint (ACF) River Basin. Atlanta's metropolitan leaders and planners exploited this opportunity, arguing that the city's future economic growth, and its contribution to the nation, would be jeopardized unless the regulation of the upper Chattahoochee was accomplished. As a

¹ Martin V. Melosi, *Precious Commodity: Providing Water For America's Cities* (Pittsburg: University of Pittsburg Press, 2011), 61, 63-68, 153-154.

result of their intense lobbying efforts, water supply became an authorized purpose of Buford Dam.

Even as regional leaders were urging the federal government for assistance in securing water supplies, the City of Atlanta was implementing annexation and regional land use plans that would later strain its water resources. The irony of these developments is striking. Atlanta leaders entered the 1950s with a clear understanding of the limitations of the Chattahoochee River watershed but exited that decade engaging in practices that undermined the best intentions of regional planners. Buford Dam certainly regulated the Chattahoochee's flows but the rapid extension of highways, lack of regulations to limit the geographic extent of suburban development, and expansion of water treatment capacity invited a kind of water consumption at odds with the coordinated regional development Atlanta officials purportedly championed.

The remaining three chapters, which have significant temporal overlap, will explore the environmental and legal problems that arose in the wake of metro Atlanta's quest to secure larger supplies of water for its expanding population. Leavened by the Lake Lanier impoundment, the city and its neighboring county governments would continue to expand their water supply facilities and increase their withdrawal amounts. As we shall see, this led to confrontations with downstream neighbors and federal and state authorities over the legality of these withdrawals and need for sufficient pollution control.

CHAPTER THREE

“SEWERS HAVE NO SEX APPEAL”: THE CHALLENGES OF WATER POLLUTION CONTROL IN POST-WAR ATLANTA

Atlanta officials might be compared to the little old lady who lived in a shoe in respect to pollution control—they have so many problems they don't know what to do.

W. Eugene Smith, 1968

. . . the showdown between Atlanta and the Water Quality people is only the beginning of a long series unless the proper parties wake up to the fact that the old laissez faire days are gone as far as playing fast and loose with the general public's water is concerned.

Atlanta Journal editorial, 1971

In February 1965, after a composite study conducted by the United States Department of Health, Education, and Welfare (HEW) determined that the Chattahoochee River was “grossly polluted for about 100 miles below Atlanta,” the Georgia State Water Quality Control Board (SWQCB) initiated an abatement program to reduce the amount of sewage and industrial waste being discharged into the river. The City of Atlanta, which owned and operated three wastewater treatment facilities (WWTFs) located on the river, was considered to be a major source of the pollution. Atlanta, as well as other cities and industries known to discharge untreated or inadequately treated wastes, were advised that the Board would require, within a reasonable time, a plan and schedule for abatement from each of them.¹

¹ Atlanta Region Metropolitan Planning Commission, *Atlanta Regional Comprehensive Plan: Water and Sewerage Engineering Recommendations* (Atlanta, 1969), 4; “Chattahoochee Statement” by R.S. Howard to Conference on Instate Pollution of the Chattahoochee River, July 14, 1966, Environmental Protection

The City of Atlanta, in collaboration with the consulting engineering firm of Wiedeman and Singleton, produced an engineering report in December 1965 that outlined major improvements to be made in the three waste treatment plants. Based on design criteria provided by the SWQCB, which the Board argued would “enable the City to arrive at a reasonable and practical solution” to its municipal pollution problem, the construction plan called for upgrading the facilities to the level of “secondary” treatment to ensure the removal of up to 85 percent of organic matter entering the river. The SWQCB accepted Atlanta’s plans on March 1, 1966 and established July 1971 as the completion date for all water pollution control projects to be in operation.²

Atlanta Mayor Sam Massell informed the SWQCB in mid-1970, however, that the city would be unable to meet its agreed-upon deadline due to delays in obtaining financing and the failure of engineers to complete further detailed plans. Upon recognition that efforts “to secure the voluntary cooperation and compliance” of Atlanta officials had failed to achieve the desired ends in “a reasonable period of time,” the SWQCB, in conjunction with the newly-created Environmental Protection Agency (EPA), took more decisive action. On December 9, the EPA threatened prosecution to force Atlanta to undertake the specific antipollution measures it dictated if the city did not deliver acceptable abatement plans within 180 days. What is more, the SWQCB simultaneously assumed exclusive power to grant or deny applications for new sewer attachments until the city completed these abatement projects. The projects were to include both the immediate acceleration of a program to achieve the required secondary

Division, Director’s Office, Director’s Subject Files, 1965-1977, RCB 25122, Box 2, File 86372, Georgia Archives, Morrow, Georgia. (collection hereafter as EPD Files).

² R.S. Howard to Mr. C.E. Drummond, Jr., 6 August 1965 and 1 March 1966, included in Wiedeman and Singleton Inc, *Report on Water Pollution Control for the Chattahoochee River by the Atlanta Metropolitan Sewer System*, (December 1965), Plate 5, iv; “City of Atlanta Order,” EPD Files, RCB 25124, File 86408.

treatment of the municipal effluent entering the Chattahoochee River and the necessary increase in sewer service fees to accomplish it by December 31, 1972. But the ultimate goal, as federal and state agents reminded Atlanta officials, was for the complete elimination of all municipal pollutants discharged into the city's rivers and streams.³

Less than two months later, in February 1971, Sam Massell told a U.S. Senate Subcommittee that insufficient funding and public apathy had rendered his city virtually impotent to solve its water problems without greater federal assistance. "I don't believe in standing in the schoolhouse door, and I am not trying to stop anything," he told the senators, but "the money is not available." Federal and state "demands for increased local commitments to control pollution" had occurred, he argued, when "demands for other city services are rapidly increasing and local revenue sources are severely strained to meet that burden." Moreover, Massell asserted that securing additional local revenue from "the man on the street" for the purpose of pollution control was made all the more difficult because "sewage doesn't have the sex appeal that other projects do." The stark reality, he ruefully assured the subcommittee, was that without increased federal funding then "it isn't necessary to be given 180 days of notice for we couldn't comply in 180 weeks."⁴

Congress, which was in the midst of oversight hearings to evaluate the expanding federal effort to restore the quality of the nation's soiled waters, proved willing and

³ Ibid; Sam Massell to R.S. Howard, 7 April 1970, EPD Files, RCB 25124, File 86408; "City To Seek Water Bill Hike," *Atlanta Journal*, 1 March 1971; "More Pressure Builds Up to Correct Pollution Control," *AJ*, 20 January 1971.

⁴ U.S. Congress, Senate, Committee on Public Works, *Hearings Before the Subcommittee on Air and Water Pollution*, 92nd Cong., 1st sess., 4,8,9 January 1971, 703, 713, 717, (hereafter sighted as Massell testimony); "Massell Raps Pollution Act," *AJ*, 4 February 1971.

receptive. Federal relief came the following year with the passage of the Water Pollution Control Act Amendments of 1972, which not only established stricter abatement requirements and enforcement measures, but also boosted the federal share of facility construction up from thirty-five to seventy-five percent. As a result of the latter provisions, Atlanta officials began to tackle some of their most pressing pollution control needs, most notably through the Three Rivers Water Quality Management Program, a mammoth tunneling project designed to divert treated wastewater away from three local rivers and deliver it back to its point of origin, the Chattahoochee River.⁵

As the foregoing summary suggests, only the imposition of federal and state authority and assurances of federal financial support would compel the City of Atlanta to take substantive action on its water pollution problems. More accurately, in tracing the roots of Atlanta's lax environmental stewardship and the evolution of federal water legislation from the 1930s to the 1970s, this chapter argues that events in Atlanta unfolded in the shadow of transitions taking place in federal and state environmental agencies. It demonstrates first that the federal presence in Atlanta sewer issues did not simply begin with the carrot and stick approach of the 1970s. Rather, federal presence dated back to infusions to help build Atlanta's massive metropolitan sewer system in the 1930s and evolved according to environmental paradigms that slowly shifted from concerns over public health and economic development to ecosystems awareness. Furthermore, it also shows that although Atlanta leaders faced numerous topographical and technological challenges, their consistent resistance to making necessary financial and administrative adjustments also compounded their troubles, leaving state and federal

⁵ Office of Public Affairs, Environmental Protection Agency, *The Federal Water Pollution Control Act Amendments of 1972: Highlights* (Washington D.C.: U.S. Government Printing Office, 1973), 3.

authorities with little choice but to become important participants in efforts to address Atlanta's mounting water pollution crisis.

THE FEDERAL ANTIDOTE TO WATER-BORNE DISEASE IN ATLANTA, 1935-1952

Atlanta emerged from the piecemeal sewer operations of the late nineteenth century to become among the nation's pioneers in urban sanitation during the two first decades of the twentieth century. For example, in 1912 it became the first American city to use Imhoff sedimentation tanks for the processing of sewage and by 1916 had three fully operational biological treatment facilities. As a result of these improvements, Atlanta saw its typhoid death rate decline by seventy percent—from 56 per 100,000 in 1911 to 17 in 1916— as nearly 80 percent of its population was served by the plants at a cost of less than five cents per capita.⁶

As the city entered the 1930s, however, it found that its physical facilities had not kept pace with the terrific population growth witnessed during the preceding decade. During the 1920s, Atlanta's population increased by approximately seventy percent. Then the Great Depression occurred, bringing with it unemployment and reduced manufacturing output. As a result, local tax receipts plummeted and, as operating expenditures were curtailed in response, attempts to improve the area's deteriorated schools, hospitals, playgrounds, and parks came to a grinding halt.⁷

⁶ Stuart Galishoff, "Paying for the Cost of Growth," 40-41. L.G. Pearce, "Atlanta Builds Modern Disposal Plants," *Municipal Sanitation* 10 (July 1938), 27.

⁷ Douglas L. Smith, *The New Deal in the Urban South* (Baton Rouge: Louisiana State University Press, 1988), 16-17, 22, 108.

Atlanta's civic leaders singled out the city's sewerage system as its most urgent infrastructural problem. Labeled a "disgrace" by one historian of the New Deal, its overloaded disposal plants spewed vast amounts of untreated human and industrial wastes into area streams, while its antiquated sewer network caused street and cellar flooding during even moderate rainstorms. Such inadequacies produced not only offenses to the eyes and nose but reignited public health concerns as well. In 1933, for example, the Georgia State Board of Health director reported that Atlanta typhoid rates were twice the average for the fifteen largest urban areas in the country and that the city ranked first among all American cities in diphtheria deaths. Moreover, local farmers who used various creeks to water their livestock began to file damage suits against the cities of Atlanta and nearby Decatur "for inadequate sewage treatment and stream pollution." In response to these complaints, the grand juries of Fulton and DeKalb Counties requested that the local Better Government Commission investigate the area's sanitary conditions and recommend possible remedial abatement measures.⁸

The Commission issued its report in February 1935. It found that the municipalities of Fulton and DeKalb had made provisions for fully or partially treating

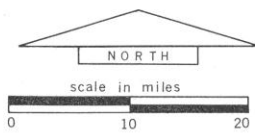
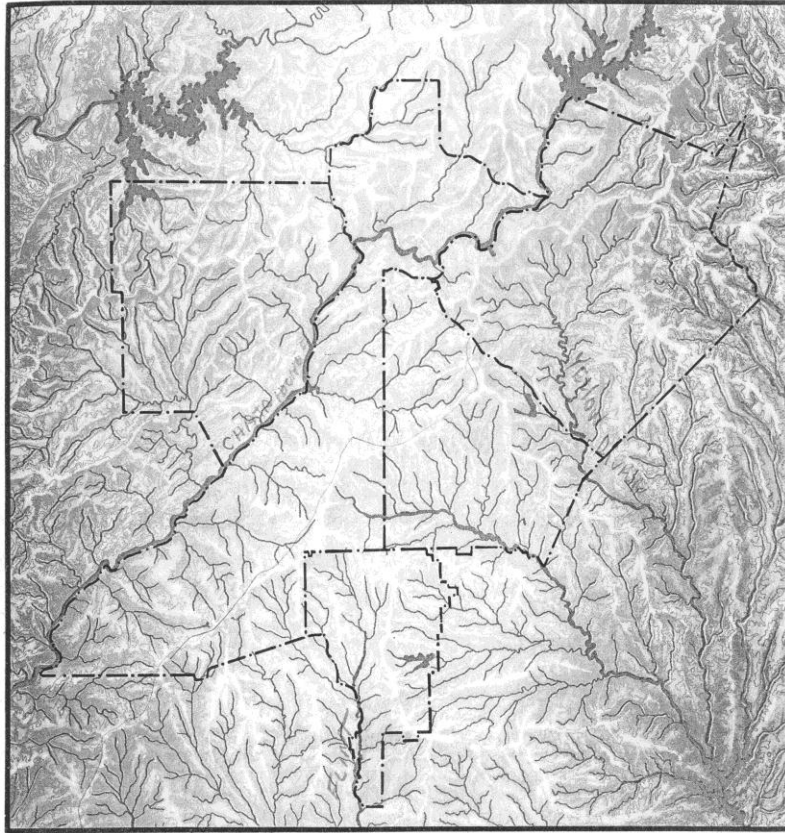
⁸ Ibid, 108; "Inadequate Sewerage System Leads To Rapid Increase in Typhoid and Other Deaths in Atlanta," *The Atlanta Constitution*, 14 July 1935; "Better Government Commission Urges Creation of Metropolitan Sewer District as Solution of Problem Faced by City," *AC*, 17 February 1935; It is unclear what standing or redress county plaintiffs had with regard to nuisance abatement suits against the City of Atlanta. Georgia municipal incorporation laws between 1872 and 1935 almost invariably stated that municipalities were required to "to prevent injury to or pollution to . . . the water or healthfulness of said town." Atlanta's charter lacked this particular statement, however. Rather, its 1911 amendments stated that the mayor and city council "may cause to be abated and removed anything which may cause impurity or unhealthfulness of the water from said waterworks," which suggests that the City of Atlanta could pursue polluters of its own water supply. It is possible that county farmers during the 1930s could have used an 1875 law that required grand jury investigations when the "nuisance complained of is a grist or saw mill, or other water machinery of valuable consideration." This latter description in the law might have been liberally interpreted to include complaints against sewer disposal plants. For responsibilities of municipalities, see *Acts and Resolutions of the General Assembly of the State of Georgia, 1872* Vol.1, Law No. 17, Sec. 8, p. 20; for Atlanta's 1911 Charter amendments, see *Georgia Acts and Resolutions 1911*, Vol.1, No. 310, Sec. 6, p.563; For grand jury pollution investigations, see *Georgia Acts and Resolutions 1875*, Vol. 1, No. XXVI, Sec. 1, pg. 24.

approximately 31 million gallons of sewage per day (MGD) but that the total daily waste load actually approached 44 MGD. Much of raw sewage discharged into streams, the report claimed, came from developed areas lying in between the municipalities. Recognizing that “unincorporated areas are a large factor in the problem” and that numerous limitations prevented any single municipality from providing comprehensive service to all of Fulton and DeKalb Counties, the investigators recommended that a Metropolitan Sewer District be established “to provide for all of the area a common system of sewers and disposal plants.”⁹

The Better Government Commission understood well that providing Atlanta with an adequate sewerage system would be difficult and expensive. The City of Atlanta and its adjacent communities sit on rugged topography. It is split by the Eastern Continental Divide, a ridge that demarcates the two watersheds of the Atlantic Ocean: the Atlantic Seaboard watershed and the Gulf of Mexico watershed. Rainwater falling east of the ridge enters the Altamaha River Basin and eventually enters the Atlantic Ocean. That rain which falls west of this ridge enters the Apalachicola Basin via the Chattahoochee River before emptying into the Gulf of Mexico. Smaller drainage and sub-drainage basin mold the terrain into countless segments that requires a myriad of gravity-dependent sewers to conduct wastes to not one but several disposal plants. Metropolitan Atlanta was also home to political boundaries that did not conform to the natural drainage systems, producing potential jurisdictional disputes over which city or county was responsible for paying for the treatment of wastes generated in one area but transferred to another. Lastly, the City of Atlanta, the largest sewer provider in the area, was in dire economic

⁹ “Better Government Commission,” AC, 17 February 1935.

TOPOGRAPHY AND POLITICS



*For clarity, the 45 municipal boundaries are not shown on this map, but appear on the facing page.

ATLANTA REGION METROPOLITAN PLANNING COMMISSION

Water and Sewer Problems Follow Land Forms Rather Than County Boundaries *

Figure 3.1— Atlanta Topographical and Political Boundaries, 1964. (Source: Atlanta Regional Metropolitan Planning Commission, *Water and Sewer Problems in Metropolitan Atlanta*, 1964)

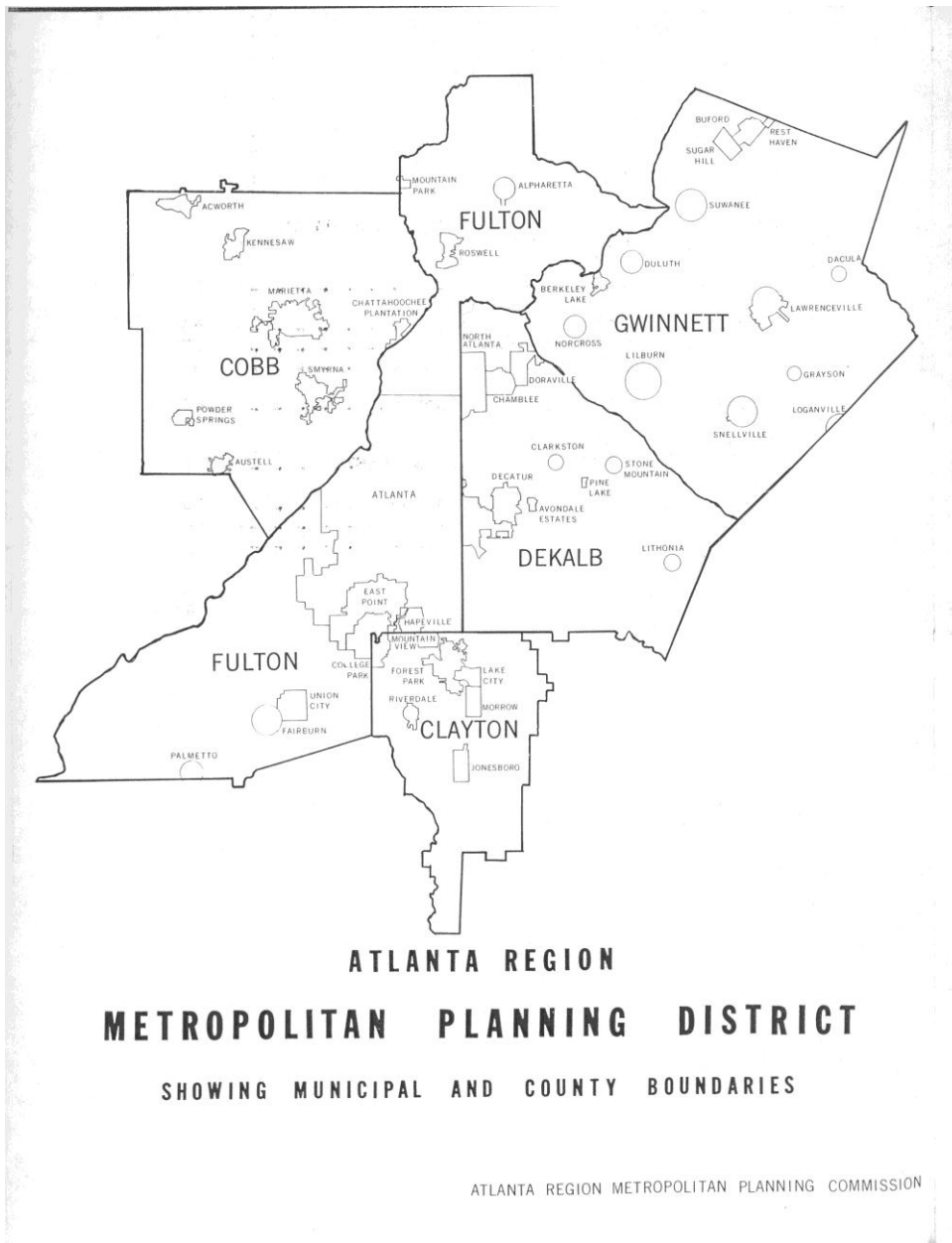


Figure 3.2 – Metropolitan Atlanta Counties, 1964. (Source: Atlanta Regional Metropolitan Planning Commission, *Water and Sewer Problems in Metropolitan Atlanta* 1964).

straits had been reduced to relying on bank loans since 1933 to cover its operating expenses. But despite these daunting obstacles, the Commission stated: “the well-being of the community demands that it [“the sewage problem”] be dealt with at once, and now is the time to do the work, at the lowest cost to the district, by reason of federal aid.”¹⁰

The Commission’s report came at a propitious moment. According to historian Jason Scott Smith, by 1935 President Roosevelt’s New Deal was undergoing a “Public Works Revolution” that would eventually “transform the landscape and make the case for the New Deal in cement, mortar, and steel.” After being criticized by the national media and trade and professional organizations for putting too few men back to work too slowly, the New Deal entered a phase in which it merged the acute need to stimulate immediate economic recovery with the federal government’s long-term goal of resource management and economic development. It did this through a host of state-sponsored public works construction programs that were financed through the Works Progress Administration (WPA) and the Public Works Administration (PWA). For example, by mid-1935, two years after its creation, the PWA stopped emphasizing loans for self-liquidating public works projects with the potential to raise revenue (roads, bridges, dams) to cover the costs of construction and began to offer grants-in-aid for municipal improvements. In addition, with the establishment of the PWA in April 1935 the federal government complimented the WPA’s method of limited contract employment on large infrastructure worksites (and indirect employment in related industries) with the direct employment of large numbers of workers in selected smaller construction projects under

¹⁰ ARMPC, *Technical Supplement*, 61; Atlanta Regional Metropolitan Planning Commission, *Atlanta Regional Comprehensive Plan: Water and Sewerage* (Atlanta, 1969), 2; MPC, *Up Ahead*, 45; “Better Government Commission,” *AC*, 17 February 1935; Douglas Smith, *The New Deal*, 109.

government supervision. And although primarily remembered for its support of artists and writers, the WPA actually devoted seventy-five percent of its funding and work relief to far less sexy projects such as highways, streets, public buildings, utilities, and recreational facilities. Likewise, the PWA “primed the pump” by authorizing the construction of some thirty-four thousand projects by early 1939 at a cost of over \$6 billion, during which time it made possible about eighty percent of all sewer construction in the United States.¹¹

When the WPA became functional in the fall of 1935, the Atlanta city council applied for a nine million dollar grant to construct its sewer system and make improvements to school facilities. Within weeks of submitting the application, federal officials informed Georgia Senators Walter George and Richard Russell that six million dollars in grant money was approved for initial sewer construction and that work would proceed on the basis of cooperation between the WPA and the PWA. The former agency was to directly oversee construction of four small waste plants and employ thousands of workers in the laying of all sewer lines. Additionally, the latter agency contracted with local private companies for the construction of two larger disposal WWTFs. With assurance of federal money, Atlanta civic leaders waged an all-out campaign for passage of a \$1.75 million bond issue (with a token \$55,000 allotted to school improvements) to cover the city’s share of construction expenses, which passed on September 25, 1935. Work commenced in December 1935 and continued for four years. During that time six modern disposal plants, with a total treatment capacity of 68 MGD, and approximately 116 miles of trunk and sanitary sewer lines were built throughout Fulton and DeKalb

¹¹ Jason Scott Smith, *Building New Deal Liberalism: The Political Economy of Public Works, 1933-1956* (New York: Cambridge University Press, 2006), 85-89, 97, 99-101, 118.

Counties at a total cost of nearly eleven million dollars. Aided by this infusion of federal largess, Atlanta's officials rejoiced in the belief that "the sewage problem of the entire metropolitan district has been met and solved for 20 years to come."¹²

Federal agencies did not involve themselves in how the two-county sewerage system was to be managed by the various local governments. According to the Better Government Commission's proposal for a Metropolitan Sewer District, a single agency would be created to provide sewerage service for all of Fulton and DeKalb counties in order to relieve individual municipalities of the burden of existing indebtedness, operational and maintenance expenses, and the planning of when and where improvements and enlargements would occur in otherwise isolated systems. Municipalities and water suppliers within the district were to make contributions based on the amount of water sold, with the maximum charged fixed at one cent per one hundred gallons sold above the established rates charged to customers by the respective water suppliers.¹³

The Commission's plans were only partially realized. Rather than creating the proposed Metropolitan Sewer District, which would have required enabling state

¹² The announcement of private contracting was crucial to voter passage of the \$1.5 million bond issue. The Georgia Branch of the Associated General Contractors of America, who believed that general sewer construction could be accomplished "under the federal agencies for relief of unemployment," while plant construction was an "expert undertaking on which all contractors should be permitted to bid," had held out on its support of the bond until such clarifications were made. Once the organization believed their interests in fostering development of the local construction industry and building trades were satisfied, they fully backed the bond issue. "Sewage Disposal Plants To Be Built by Contract," *AC*, 17, September 1935; "Roosevelt Pledges Satisfactory Sewer Solution," *AC*, 29, October 1935; For an example of employment figures, see "WPA Gives Terms for Continuation of Sewer Work," *AC*, 20 November, 1937; "Maze of Sewers is Nearing Finish," *AC*, 11 December, 1939; City of Atlanta Construction Department, *1961 Annual Report*, (1962), 19 (hereafter cited as COA Construction Department.); For information on twists and turns of acquiring federal funding for the construction of Atlanta's depression-era facilities, see Smith, *The New Deal in the Urban South*, 107-109.

¹³ "Better Government Commission," *AC*, 17 February 1935

legislation to allow for such an authority to establish uniform rates and make all planning decisions for the whole system, local governments opted to move forward through contractual agreements that were to be re-negotiated every five years. After a series of heated debates the beneficiaries resolved in 1940 that the City of Atlanta, which had the most experience with waste treatment, should maintain ownership and responsibility for operating four of the system's disposal plants with Fulton County to pay one-third of the cost of those plant operations. Similarly, DeKalb County was to contribute a portion for its area serviced by these facilities overseen by Atlanta, but also hold the title to two small disposal facilities located wholly within the county. In addition, improvements to any part of the system required approval from those governments affected, with apportioned costs to be re-negotiated as the need arose. Lastly, each government was allowed to dictate its own system (or absence) of sewer service charges and the area's respective water supply departments were incorporated only insofar as they were potential sources of revenue and not as planning partners.¹⁴

Washington also did not assume any responsibility for establishing standards for the quality of the effluent discharged into Atlanta's streams. Although federal financing certainly did mitigate against some of the area's most pressing public health concerns, its chief objective in Atlanta was to provide for work relief and to foster economic recovery and development. As Martin Melosi explains, the United States Public Health Service

¹⁴ "Long Controversy Over Sewer Costs Virtually Settled," *AC*, 10 November 1937; "City and County Reach Sewer Project Accord," *AC*, 13 July 1940; ARMPC, *Water and Sewer Problems in Metropolitan Atlanta* (Atlanta, 1964), 36; _____, *Atlanta Regional Comprehensive Plan*, 42-43; Atlanta and Fulton County would continue to debate the adequate contributions that the county should make toward operations and maintenance until the late 1940s, with the city insisting on, but failing to receive, up to fifty percent. See for example, "Split Sewer Costs 50-50 Atlanta Asks Fulton," *AJ*, 1 July 1948; "City, County Agree on Deal for Sewers," *AJ*, 28 October 1948;

(USPHS) had engaged in water quality monitoring since 1912 but no fixed standards existed until after the Second World War. Federal water policy, instead, had traditionally called for federal funding of dams for flood control, power production, and irrigation purposes. And even with the introduction of state-sponsorship of sewer plants in the depression-era, the federal role in pollution control remained limited, as evidenced in President Roosevelt's 1938 veto of a stream-pollution bill that passed through Congress¹⁵

Despite the lack of national water quality standards, a general consensus had emerged through the interwar years among sanitary engineers regarding biological methods that could be employed to satisfactorily treat wastewater. The plethora of drainage divides and the dependence on the cheaper form of gravity conveyance required that Atlanta's system would include numerous disposal facilities of differing load capacities. The treatment methods chosen for these plants were largely based on the volume of water in each receiving stream, a fact that indicates a reliance on the ability of flowing water to partially dilute municipal wastes. The city's WWTFs, depending on the location, fell into two categories: those that provided primary treatment only and those that provided primary and secondary treatment. The primary treatment plants—the R.M. Clayton plant and Utoy Creek plant—discharged their effluent into the tributaries of the Chattahoochee River. The four remaining plants—Intrenchment Creek, South River, Shoal Creek, and Snapfinger—provided both primary and secondary treatment and discharged into the tributaries of the Flint and South Rivers. The reasoning behind this approach was that the Chattahoochee River, because of its relatively large size, could

¹⁵ Melosi, *The Sanitary City*, 315, 333-34.

assimilate more sewage waste without becoming more dangerously polluted than the smaller streams.¹⁶

Wastewater, by weight, is 99.4 percent water. The remainder is either dissolved material or suspended matter (“suspended solids”). The dissolved content typically consists of organic compounds, although trace elements of inorganic compound may be found as well. With sufficient capacity and time, running water can theoretically purify itself of biodegradable organics, which serve as food sources for bacteria and other aquatic micro-organisms. But this chemical reaction consumes oxygen. The amount of oxygen needed to stabilize the biodegradable organics is called the biochemical oxygen demand (BOD). The higher the BOD, the more oxygen needed to break down the organics. If the oxygen demand of the wastewater exceeds the oxygen sources of receiving water, then the oxygen will be completely depleted and the stream or lake will become septic near the wastewater discharge point.¹⁷

Primary treatment is a basic form of treatment. Its main goal is to remove from wastewater those solids which would either settle (such as heavier suspended solids) or float (such as grease). In this stage, raw sewage passes through screens to remove objects greater than half-an-inch and a comminutor so that any remaining particles can be pulverized to an eighth-of-an-inch or smaller. Screened water then enters a grit chamber where heavy sand, cinders, or grit from street washings are allowed to settle to the

¹⁶ Ibid, 249; ARMPC, *An Inventory of Water and Sewer Systems*, 64.

¹⁷ United States, Environmental Protection Agency, Office of Technology Transfer. *Environmental Pollution Control Alternatives: Municipal Wastewater* (Washington D.C.: U.S. Environmental Protection Agency, Technology Transfer, 1976), 1-2 (hereafter cited as EPA, *Alternatives*); Metcalf and Eddy, Inc, *Wastewater Engineering: Collection, Treatment, Disposal* (New York: McGraw-Hill, 1972), 373-76.

bottom. The grit or gravel is taken from the chambers and is typically washed and disposed of through landfilling.

After screening and grit removal, sewage goes into a large (Imhoff-type) sedimentation tank where it is detained long enough (2-3 hours) to remove as much organic material (by settling) as possible without the whole process becoming anaerobic, which would cause nuisance odors and slow down the treatment process. The settled materials, known as raw sludge, are removed from the sedimentation tanks by mechanical scrapers and pumps. Floating material, such as grease and oil, rise to the surface of the tanks, where they are collected by a surface-skimming system and removed for further processing in either sludge digesters or drying beds before being carried away and also landfilled.

Secondary treatment, in contrast, is more complex and therefore more expensive. The major goal is to remove the soluble BOD that escapes the primary process and to provide added removal of suspended solids. In most cases, such as in Atlanta, biological processes bring micro-organisms into contact with the impurities present in the wastewater so that they may use these impurities as food. The objective is to encourage the right kind of aerobic bacteria by providing them with ideal temperature and oxygen concentrations to maximize their reproduction, and hence the oxidation of wastes. Secondary treatment thus seeks to speed up, by mechanical means, the natural processes that occur in receiving streams if they had the adequate capacity to assimilate the wastewater discharges.

In secondary treatment the effluent is intermittently sprayed into trickling filters, which are coarse beds of coal, coke, or stone. As wastewater trickles through the beds, which range in depth from 3 to 10 feet, it passes over the “fixed film” of microbial growth that clings to the media’s surface area. This provides the needed contact between the organics and the micro-organisms and allows the latter to feed. The cleaner water that trickles out of the bottom of the filter with small amounts of washed-out microbial growth is then passed through a second sedimentation basin or “final clarifier” to allow those solids to settle out.

The differing effects of primary and secondary treatment are substantial. Whereas secondary treatment may remove more than 85 percent of the BOD and suspended solids, primary treatment only typically removes 60 percent of the suspended solids and about 35 percent of the biological content from raw sewage. Soluble pollutants are not removed in primary treatment. This can leave water bodies in a very unhealthy state. Organic matter depletes the oxygen resources of water bodies, and if unchecked, will stimulate undesirable growths of plants or organisms (such as algae). An overabundance of plant growth can harm aquatic life and by choking off necessary oxygen supply and as well as produce undesirable esthetics or adverse health effects for downstream water users.¹⁸

But as the threat of water-borne diseases receded with the construction of new facilities in the 1930s, new concerns over the dangers to public water supplies posed by

¹⁸ EPA, *Alternatives*, 6-7; Rogers, *America’s Waters*, 111; The activated sludge process, which was first developed in the 1910s but did not come to Atlanta until the early 1962, is another biological technique commonly found in secondary treatment plants. It derives its name from the biological mass formed when air is continuously injected into the wastewater to supply the conditions under which micro-organisms can grow and feed off the organic matter. The aeration causes the organisms to clump together to produce a flocculate precipitate or “activated sludge.” This mixture is drawn into a secondary clarifier so the sludge is settled out and disposed of in landfills while most of the sludge is returned to the aeration tanks to be introduced to fresh wastewater so that the process of nitrification (or oxidation of materials) can begin again. See EPA, *Alternatives*, 8-14; Melosi, *The Sanitary City*, 172;

the rapid urbanization and industrialization attending World War II emerged. Enhancing water “quality” for purposes of economic development, as Melosi explains, took on greater importance during the postwar years. The disjointed attempts of local and state health agencies to protect the nation’s public water supplies from the harmful effects of toxic chemicals and soluble biological content prompted the federal government to take the first tentative steps at creating a national abatement program. Therefore, in 1948 it passed the first-ever Federal Water Pollution Control Act, which empowered the USPHS to collect data and prepare comprehensive plans to prevent the pollution of interstate waters. In addition, it authorized the Federal Works Administration to provide technical assistance to local agencies and municipalities constructing treatment plants.¹⁹

Although the 1948 act established a precedent for further federal involvement in water pollution control, it confined the federal agencies to a supporting and advisory role. Water pollution was looked upon as a local matter, and as Paul Charles Milazzo observes, “the statute’s rather convoluted regulatory features illustrate how faithfulness to federalism undercut programmatic effectiveness.”²⁰ There were no federally required goals, objectives, limits, or even guidelines. Furthermore, the authority of the USPHS did not extend to watercourses that did not flow across or form any part of state boundaries. Lastly, any suits and judgments brought by the federal government were subject to potential veto by the state in which the pollution originated.

In the absence of federal water pollution control mandates, Georgia’s State Board of Health tried cooperation and education as a means of preventing water pollution. The

¹⁹ Ibid, 315; Paul Charles Milazzo, *Unlikely Environmentalists: Congress and Clean Water, 1945-1972* (Lawrence: University Press of Kansas, 2006), 19.

²⁰ Ibid, 20; Claudia Copeland, “Clean Water Act: A Summary of the Law” (Washington D.C.: Congressional Research Service, 2010), 2.

state's Public Health Department (created in 1903) tried various methods of public outreach to maintain an awareness of the various dangers to water quality. Through its Public Health Engineering and Water Pollution Control Divisions, which were established as early as 1924, it offered technical assistance to local communities in the form of educational films and literature, which included a comic book on combating water pollution titled "The Fight to Save America's Waters: A Mark Trail Adventure in Public Health and Conservation." More substantive was its annual Georgia Water and Sewage School, which brought together national sanitation equipment suppliers, public health officials, academics, and engineers to disseminate the latest information on water supply and pollution-related issues. Its 1951 meeting held at the Georgia Institute of Technology, for instance, included sessions on bacteriology of water and sewage, mechanical clarifiers, and sludge digestors, as well as a demonstration on new methods of sewage cleaning.²¹

According to William H. Weir, director of the state's Pollution Control Division during the 1950s, the success of cooperative efforts between state agencies and local political and industrial leaders in combating stream pollution was evident by mid-century. Reflecting back on the progress made in pollution control since he joined the agency in 1928, Weir argued that water-borne diseases had been brought under control by the replacement of privy vaults with modern sewage treatment techniques. Typhoid fever, which had claimed 17 lives for each 100,000 persons in Georgia in 1930, was "almost

²¹ "The Fight to Save America's Water: A Mark Trail Adventure in Public Health and Conservation," [n.d] and "Schedule for Twentieth Annual Georgia Water and Sewage School." Director's Subject Files-1951, Director's Office, Public Health, RCB 13002, Box 051, file199375, Georgia Archives; "General Information: Department of Natural Resources, Environmental Protection Division, Water Quality Control Section," Environmental Protection Division, Director's Office, Director's Subject Files-1965-1977, RCB 25121, Box 4, File 86310, Georgia Archives.

non-existent,” Weir claimed, which led him to conclude that “the pioneer work of pollution control is in the past now.” Furthermore, he believed that civic and industrial leaders had awoken “to the economic need for the advantages of a pure water supply,” which suggested to him that stringent state agency focus on disease prevention had been supplanted by widespread attention to the primacy of water quality in economic development. Municipal officials, he opined, realized that “not only is it more healthful to build sewage treatment plants but also more helpful in getting new industries.” Similarly, as courts began to award damages to persons who claimed damages from upstream pollution, industries showed an awareness that pollution control is “not only good public relations but also prevents lawsuits.” What is more, Weir felt that if municipal and industrial leaders continued to seek technical assistance from his office for building and improving treatment systems, then Georgians could be confident that they were on their way to having “a pure water supply for unlimited growth.”²²

And growth was the order of the day for most Atlantans as they entered the post-war years. As Chapter Two explained, Atlanta officials had grown increasingly alarmed by residential and commercial decentralization. In an effort to maintain the vigor of downtown Atlanta and reduce the wasteful redundancy of duplicated city and county services, Atlanta’s civic leaders successfully pushed for the 1952 annexation of unincorporated areas in north Fulton County that had experienced tremendous population growth during the interwar period. The “Plan of Improvement,” the city’s blueprint for achieving the desired corporate expansion, outlined the broad services needs for both the Atlanta Water Works (AWW) and the Sewer Division in the new city limits. According

²² William Weir quoted in “Water-Borne Diseases Curbed: Georgia Cities Solving Stream Pollution Menace Despite Industry’s Rise,” *Atlanta Journal*, 28 February 1954.

to the Plan, the AWW needed to extend water mains into large sections of the newly incorporated area that had not previously received city water. This prompted AWW director Paul Weir to initiate a two-phased, ten year program of system improvements wherein the first five years the city would enlarge its distribution network to meet the most immediate water supply demands and then later expand treatment capacity over the remaining five years to ensure adequate water supply for the next twenty-five years.

Because planners and engineers of the 1930s had constructed a system for a city much larger than the Atlanta of that era, sewage improvements, according to the Plan of Improvement, would be far more modest in comparison to those of the AWW. Equally important, the planners argued, was that the City of Atlanta as well as Fulton, and DeKalb Counties continued to cooperate in accordance with the negotiations prescribed in the establishment of what became known as the “Metropolitan Sewer System.” In 1946, for example, the city and county passed a joint bond issue that dedicated \$3 million for the construction of new sewer trunk lines to tie into the existing facilities. This kind of collaboration, it was believed, portended great things for Metropolitan Atlanta’s future growth.²³

With the threat of water-borne diseases curbed and treatment capacity apparently sufficient, Atlanta leaders looked forward to continued economic progress as they began the second half of the twentieth century. In fact, if they took the words of the city’s Chief of Construction at face value, then they had cause to be optimistic. In June 1951 Clarke Donaldson assured local reporters that Metropolitan Atlanta’s sewer system was well

²³ LGC, *The Plan of Improvement*, 53; ARMPC, *An Inventory of Water and Sewer Systems*, 62-3; On the 1946 joint bond issue passed by the city and county, see Harold H. Martin, *Atlanta and Environs*, Vol. III 122.

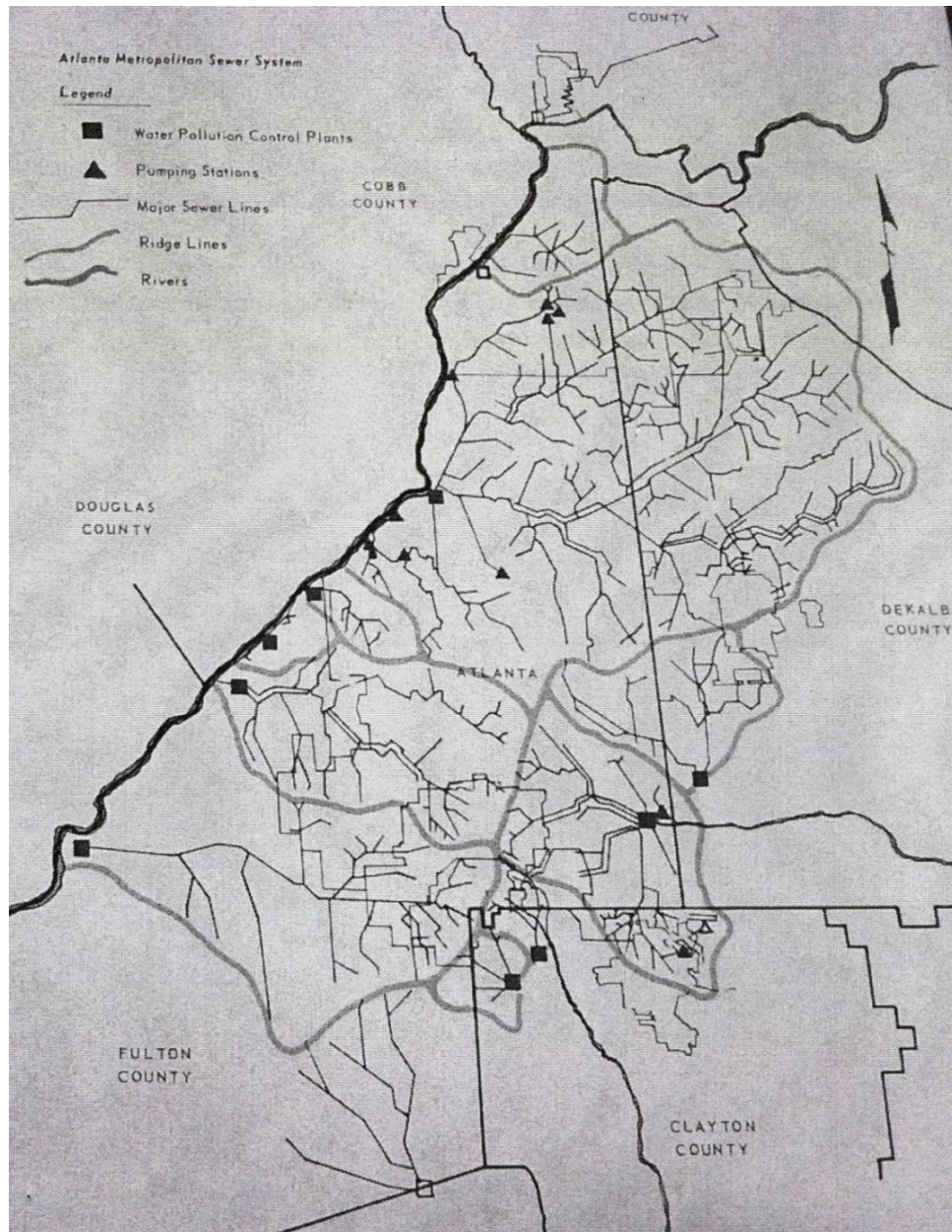


Figure 3.3—Atlanta Metropolitan Sewer System, 1962. (Source: Atlanta Regional Metropolitan Planning Commission, *Water and Sewer Problems in Metropolitan Atlanta*, 1964)

ahead of the expanding city's needs. With 980 miles of sewer lines, he projected the system should be in adequate shape to serve the 800,000 population expected in the area by 1965.²⁴

CANARIES IN THE COALMINE, 1952-1958

No sooner had Atlanta achieved its desired annexation of un-incorporated portions of Fulton County than ominous signs emerged regarding the city's ability to digest the water problems associated with its far-flung suburbs. The authors of the Plan of Improvement, the Local Planning Commission, had largely concerned themselves with justifying the reorganization of city and county services and left the messy details of its execution to the city's sanitary engineers and regional planners. These latter individuals, like other environmentally conscious groups across the nation, were showing a growing concern for the water quality problems associated with World War II industrialization and postwar suburbanization and consumerism. They began to argue that water quality was a "combined problem" of water supply and wastewater disposal; an issue that they believed had to be managed on a regional scale.²⁵

The unregulated use of septic tanks was one matter that engineers felt could not be ignored. As Adam Rome explains, septic tanks were a major feature of postwar suburban life. Residential developers, who tried to satisfy the unleashed demand for new housing stock after wartime restrictions, chose these devices as a cheap method of waste

²⁴ "New Sewer System Ahead," *Atlanta Journal*, 1 June 1951.

²⁵ MPC, *Up Ahead*, 96

treatment in peripheral areas that lacked municipal sewer lines. Despite the fact that septic tanks had first been developed almost a half century earlier, their ecological complexity was only beginning to be understood by the 1950s. Tanks frequently failed only after two to three years of use and the majority of these installations took place without regulation. And as Rome points out, because these private vessels caused water pollution both above and below ground, sanitary engineers were confronted with a public health concern like that faced during the privy vault era: the need to convince citizens to turn toward public systems to ensure the quality of public water supplies.²⁶

The increased reliance on septic tanks prompted local consulting engineers to recommend in 1953 that sewer lines and pumping stations be constructed in North Fulton County to prevent the future contamination of public water supplies. Wiedeman and Singleton, the city's principal engineering consultants since the 1920s, surveyed the area in the wake of the Plan of Improvement and found that the entire area was without sanitary sewer service. Of particular concern were the commercial sections of Sandy Springs, an affluent bedroom community that was projected to be on the verge of a significant population spike. Due to the widespread use of private septic tanks in this area, the consulting engineers anticipated that "it is only a matter of time" before the Sandy Spring's soil would become "overloaded with sewage wastes." This posed an immediate concern because the larger area's insufficiently treated sewage seeped into the various creeks and ultimately entered the Chattahoochee River just above the Cobb County and the City of Atlanta water supply intake pipes. This problem, the engineers assured, could be adequately addressed by retrofitting the septic tanks into the

²⁶ Rome, *The Bulldozer in the Countryside*, 87-118.

metropolitan sewerage system and delivering the waste to the R.M. Clayton plant for treatment. And although current demographics did not require the construction of additional disposal plants in the area, the consulting engineers suggested that building new facilities should be contemplated “when and if the population density justifies.”²⁷

The consulting engineers were not the only ones to highlight the entanglements of water supply and water pollution in Atlanta. Within a month of the January 1952 annexation, the Metropolitan Planning Commission (MPC) issued its regional land use guide, *Up Ahead*, and raised concerns about the area’s ability to protect its water resources. In this report, the MPC, a multi-county planning agency charged with the responsibility of assisting local governments in their efforts to achieve orderly metropolitan development, argued that Atlanta would need to seek ways of regulating the flow of the Chattahoochee River to “assure the water supply needed for its future growth.” Metropolitan Atlanta’s position on top of a water divide, the report indicated, made it vulnerable to water shortages. In addition, the Chattahoochee River’s erratic levels over the course of a year and the presence of moderate droughts, which occurred every three to five years, brought the river’s flow dangerously close to the city’s minimum needs.

Federal construction and operation of Buford Dam by the Army Corps of Engineers, the MPC argued, would be a key factor in determining how Atlanta’s water issues would be resolved. Conceived in the wake of federal success with the Tennessee Valley Authority and urged on by Atlanta officials for its perceived necessity to future

²⁷ Wiedeman and Singleton, Inc. to Commissioners of Roads and Revenues, Fulton County, *Report on Sewerage System Improvements: Fulton County-Sandy Springs* (May 1953).

economic development, the proposed dam, located forty-eight miles northeast of the city, was intended for the purposes of flood control, conservation, hydro-electric power, and water supply.

It was this latter function that vexed the MPC. Although hydro-electric power plants return all diverted water back to the river, the MPC maintained that the plants also require irregular water releases for peaking purposes. The Corps proposed that it would release between 500 and 8000 cubic feet per second (c.f.s.) to service plant operations and suggested that no less than 600 c.f.s (or 388 MGD) would reach Atlanta. But the MPC argued that while 600 c.f.s would secure the city's 120 c.f.s domestic water supply needs it would not provide the requisite 1000 to 1200 c.f.s. "to take care of sewage as it is now treated" at the R.M. Clayton Plant. The planners further argued that fluctuations caused by peak demand releases would also deprive the city of the uniform flow needed for both water supply and waste disposal because water would not arrive when it was most needed.

To make certain that Metropolitan Atlanta had "the right amounts of water in the right time and at the right place," the MPC suggested that city leaders investigate constructing a second "re-regulation" dam somewhere between Atlanta and the federal dam in the event that the Corps proved unwilling to adjust its operations. Such a dam, it posited, would provide temporary storage that could be released "in a more nearly even pattern of flow" of about 1600 c.f.s. (1034 MGD) in Atlanta.²⁸

In 1958, the engineering consultants Wiedeman and Singleton provided further justification for such a project. Records generated by the U.S. Geological Survey gauging

²⁸ MPC, *Up Ahead*, 96.

stations along the Chattahoochee River for the years 1903 to 1955 showed that unregulated flows had fallen below 600 c.f.s. on only 7 days of the average year (or only 2 percent of the time) and that flows exceeded 2000 c.f.s at least 48 percent of the time. Completion of Buford Dam, however, had altered these flows considerably. Data collected by the Army Corps of Engineers during regulated releases from the dam on two days in 1956 indicated that minimum flows would be 600 c.f.s at all times and that average flow was 1920 c.f.s. The consulting engineers noted, however, that the Corps' main function was to provide peak flows for power production, which amounted to 8000 c.f.s. for about six hours during the daytime from Monday through Friday. Water released from the reservoir took roughly 15 hours to reach Atlanta, which ensured that power production and local needs would not be in synch. The result was just as the MPC predicted: water would effectively arrive when Atlanta's WWTFs needed it least. Moreover, the Corps did not provide releases on weekends, which also meant that Atlanta would experience a "weekend trough" of 650 c.f.s that would begin about 10 p.m. on Saturday and end about 10 p.m. on Monday, which were also peak water demand days for the city.

The consulting engineers thus concluded that "re-regulation to provide more water for sewage dilution for Atlanta would be most beneficial" because "the present natural flows are insufficient to meet present sewer loads at low flow seasons." To secure a uniform flow of 1600 c.f.s. as suggested by the MPC, engineers considered multiple reservoir options. A 5000 acre re-regulation dam could provide up 1700 c.f.s, which was adequate dilution strength for a population of over 6 million. But such "complete" re-regulation, they argued, was unnecessary and could cost between \$2.6 and \$6.3 million

dollars. In contrast, a reservoir with a storage capacity of 3,200 acres would provide the suggested 1600 c.f.s., which they considered sufficient dilution strength “for a period of about 20 years.” Such a reservoir could be completed by Georgia Power’s Morgan Falls Dam, located roughly 8 miles north of Atlanta in Roswell, and could be modified to achieve the desired effect for between \$850,000 to \$1 million.

On September 6, 1957, the City of Atlanta and the Georgia Power Company entered into a formal agreement for the construction and operation of the 8-foot Tainter Gates on Morgan Falls Dam that created the recommended 3,200 acres of storage with average flows of 1600 c.f.s. reaching Atlanta. This agreement provided that the city pay 50 percent of the costs of the improvements, with the city’s contribution not to exceed \$500,000. Georgia Power constructed the improvements and bore 50 percent of the costs and maintained title to the dam.²⁹

Interestingly, the MPC argued that while the federal government did not have responsibility for guaranteeing a water supply for Metropolitan Atlanta it should not complicate the matter either. It suggested, essentially, that the Corps could have used its conservation mandate—to release water when it could do no harm—to help better regulate the flow of the Chattahoochee. To be sure, the proposed 600 c.f.s releases were an amount considerably above the average in drought periods. But as the planners and engineers pointed out, this was insufficient to meet the total water demands of Metropolitan Atlanta as they presently existed. Future development in Cobb and Gwinnet

²⁹ Wiedeman and Singleton, *Re-Regulation of Impounded Water from Buford Reservoir Chattahoochee River* (March 1958).

Counties would only add to these requirements. This is why the MPC tried to impress upon local governments the need for regional water resources planning and coordination.

But why such continued reliance on dilution of sewage? The simple answer is that it was a cheaper alternative to upgrading WWTFs to the level of secondary treatment.

Georgia Power, which received adequate flow from Buford Dam and had no responsibility for regulating water to meet Metropolitan Atlanta's needs, willingly helped subsidize Atlanta's sewer system, which was beginning to show signs of wear. And Atlanta's Sewer Division had little money for improvements. Unlike the revenue-generating AWW, the Sewer Division did not collect sewer service fees and relied on general obligation bonds to fund any capital improvement projects such as disposal plants, trunk lines, and outfall sewers. In fact, the city covered its sewer operating expenses through its general fund, which was replenished by splashing over revenues obtained through its water supply sales. Although it did assess property owners for the costs of new laterals lines that were extended down neighborhood streets, the city often lost money on these additions. City Finance Chairman Ralph Huie stated, for example, that the city only collected 54.6 percent of its outlays for sewers laid in 1952 and 57 percent for those in 1953. The shortfalls resulted from policies that allowed customers to defer payments for up to two years by simply pleading hardship and exempted individual homeowners with septic tanks entirely. Mayor Hartsfield was adamant that such "pay as you enter" exemptions and deferments had to end, even going so far as to attend Board of Aldermen meetings to veto individual deferments. It was all for naught, it seems, because even after he demanded a closed-to-the press session—telling reporters first that "We're talking about a new sewer policy. We're getting in trouble in there"—he relented

and allowed for both the deferments to be increased to four years and for \$500,000 of an upcoming bond issue to be set aside as a “revolving fund” to finance easy terms for homeowners when sewer costs posed a hardship.³⁰

Such concessions extracted a steady toll on department finances and ultimately compelled the city to seek funding through other channels. In the summer of 1954 the city passed a \$10 million dollar bond issue that earmarked \$2 million for improving sewer disposal facilities, building new outfalls, and repairing decaying downtown trunkline sewers, as well as bolstering the revolving fund. Even then, the \$2 million fell well short of the six million consulting engineer Mike Singleton told the City Sewer Service Committee it needed to invest in repairs over the next five years. In addition to Singleton’s damning report, the local press began to point out that water pollution was becoming more pressing with each passing day, as the city’s WWTFs grew overloaded with new suburban sewer extensions, especially in the South River area. While pointing to the “spirit of helpfulness from the state health department” in offering technical advice, editors at the Atlanta Journal warned that “someday consultation will no longer suffice.”³¹

The day was indeed coming fast, as events at the national level heralded. By the mid-1950s, as state and local authorities bombarded Washington with requests for aid in

³⁰ ARMPC, *An Inventory of Water and Sewer Systems*, 68; “Alderman Rap, But Keep ‘Easy Sewer Payments,’” *AJ*, 28 February 1954; “Sewer Policy Drawn at Closed Meeting,” *AJ*, 6 May 1964; “More Liberal Terms Seen on Sewer Cost,” *AJ*, 9 May 1954.

³¹ “Pure Water and Air major Job for City,” *AJ*, 10 December 1954; “Growth Spells Sewer Problem,” *AJ*, 16 June, 1954.

remediating stream pollution, the federal government was mobilizing to provide greater assistance in pollution control efforts.³²

Rather than basing their appeals on the traditional grounds of public health, Congressmen advocating federal intervention took a more expansive view. They now framed water pollution as a dire threat to continued national economic development. “Pollution control,” observes historian Paul Charles Milazzo, “represented a way to make water supply meet water demand, clearing the way for economic growth and prosperity.” Constituted in an atmosphere of distributive, constituent-seeking economics of natural resource development, the 1956 Federal Water Pollution Control Act (PL-660) became the first permanent federal law regarding urban sewage treatment, despite President Eisenhower’s insistence that polluted waters remained a “uniquely local blight.” Whereas the 1948 act had tentatively initiated a federal presence in construction programs on an experimental basis, the 1956 amendment made it a prominent feature. The act not only contained provisions for research, training, and the collection of basic data, but it authorized federal grants of \$50 million per year for the construction of municipal sewage treatment works.³³

Although the construction program proved to be a popular component of the act, the continued commitment to federalism and lack of thorough-going abatement policy weakened its overall effect. The act essentially reaffirmed the policy of Congress to recognize, preserve, and protect the rights of states in preventing and controlling water pollution, actions for which few states could claim much achievement. A \$250,000 limit

³² Melosi, *The Sanitary City*, 334; Paul Charles Milazzo, *Unlikely Environmentalists*, 18, 27.

³³ *Ibid*, 3, 27-32.

on construction grants was too low to capture large projects and an added provision set aside half of all appropriations for cities with populations of 125,000 or less. The Public Health Service, which partnered with state water pollution control agencies, was directed to withhold grants from projects “in which there is no federal interest or in which federal participation is not needed.”³⁴

Although it did not provide funding to Atlanta, the state of Georgia responded to federal overtures by enacting its first laws that specifically mentioned control of water supplies. The Georgia Water Quality Control Act of 1957 prohibited “the discharge of sewage, industrial wastes or wastes” into the waters of the state that would adversely affect or “jeopardize public water supplies and public health” and interfere “unreasonably with beneficial use of the water resources for recreation, fish and wildlife development, agriculture, and the industrial development of the State’s natural resources and its manpower.” In addition, the law created, within the State Board of Health, a “Water Quality Council” that “would make recommendations to the Board” with regard to regulations or standards for conducting water policy within the state. Lastly, the Board was granted the authority to issue permit certificates for discharges into state waters and the Water Quality Council was directed to conduct hearings in review of orders or actions provided by the Board.³⁵

³⁴ Ibid, 33-37; Curtis M. Everts and Arve H. Dahl, “The Federal Water Pollution Control Act of 1956” *American Journal of Public Health* (March 1956): 305-310.

³⁵ *Georgia Water Quality Control Act: Acts and Resolutions of the General Assembly of the State of Georgia*. 1957 Vol. 1, Law No. 491 (SB 139), 629-644.

Despite its apparently broad mandate, the new state law produced little credible action. Minutes of the Georgia Water Quality Control Council's regular quarterly meetings from 1959 through 1963 suggest that the council was relegated to investigating allegations of pollution and seeking voluntary compliance with the goals it set. Several instances bear out this observation. In early 1961, for instance, members of the South DeKalb Civic Club, a local business development organization, requested the council's assistance in "eliminating the obnoxious odors" emanating from the South River, which received effluent from Atlanta's disposal plant. The council initially sent a letter of inquiry to Mayor Hartsfield that asked the city "what they propose in the way of waste treatment on South River and their time-table for completion of such waste treatment work." Hartsfield, as subsequent meetings made clear, did not bother to respond. The Council followed up with progress reports and later determined that no further investigation was necessary because the city had moved forward independently through a 1957 bond issue in which 11 million dollars was dedicated to sewer and disposal plant improvements.³⁶

When the Floyd County Wildlife Association broached the subject of muddiness and discoloration in the Etowah River, the Council dispatched a geologist from the

³⁶ Minutes of Georgia Water Quality Control Board, 5 January 1961. Public Health, Water Quality Control Board, Georgia Water Quality Council Minutes, 1957-1964, RGB 26-7-8, Georgia Archives; The circumscribed nature of the construction program meant that Atlanta would have to continue to rely almost exclusively on general obligation bonds for implementing improvements to its sewer system. Atlanta was actually able to obtain \$455, 997 in construction grants under the 1956 Water Pollution Control Act, but this proved to be meager compared to their overall need. In 1957 it passed a bond issue totaling \$51, 930,000 with \$11 million dedicated to sewers and waste disposal facilities. These funds resulted in 35 miles of new sewers, increased capacity at the Flint, South, and Intrenchment Creek plants, and completion of the Morgan Falls Dam. Important as these infusions were in addressing needed modifications, they were far too small to be truly effective and within less than ten years Atlanta would again find itself scrambling to find money to make more system adjustments. COA Construction Department, *1961 Annual Report*, 9, 20-22; U.S. Congress, Senate, Committee on Public Works, *Hearings Before the Subcommittee on Air and Water Pollution*, 89th Cong., 1st sess., Part 2, 8 June 1965, 490, (hereafter cited as 1956 Act testimony).

Georgia Department of Mines, Mining, and Geology to investigate mining operations in the area. The geologist reported that two companies were impounding mud “as a valuable process of obtaining barite ore” that was shipped to foreign markets but that each was in the process of constructing larger dikes to mitigate against any contamination of the river. Satisfied with the findings, and eager to encourage local volunteerism, Council President Merritt “expressed the hope that through the Water Quality Council, situations such as this can be brought to the front to illustrate to the public the efforts of industries with regard to waste treatment. Discussions between parties concerned often sheds light on one another’s endeavors and interests and smoothes the way for understanding the problem.”³⁷

ATLANTA KICKING AND SCREAMING: 1960s

In 1962, the state Health Department Director John Venable told the Atlanta Rotary Club that Georgia had to do something about its water pollution problems and that unless steps were taken that the state will have reached “either [its] maximum development or will have defaulted regulation of [its] water to the federal government.” The steps he initially had in mind were for sound zoning requirements in all counties and “complete acceptance by all of the need to conserve water.” By the end of 1963, he was

³⁷ Ibid; Based on the existing research it difficult to determine the extent and effectiveness of the Georgia Water Quality Control Board’s permitting process. Those records that have been examined suggest that the Board was understaffed and unable to fulfill its mandate. R.S. Howard, who would become the Director of the Georgia State Water Quality Control Board—the state’s first full-time water pollution control agency—testified before the U.S. Senate Subcommittee on Air and Pollution in 1965 that budgetary limitations and lack of trained personal had hampered the state’s water pollution control efforts. see *Hearings Before the Subcommittee on Air and Water Pollution*, 89th Cong., 1st sess., Part 2, 8 June 1971, 490, (hereafter cited as 1956 Act testimony); 530.

calling the 1957 legislation “inadequate” because it did not provide sufficient authority to control pollution and still had less authority to prevent it.³⁸

Venable’s warning of federal encroachment into local environmental affairs was not unwarranted. As historian Charles Paul Milazzo explains, although Congress continued to abide to the tenets of a federalist approach to water pollution control, many such as Senator Edmund Muskie began to call for uniform water quality standards that were backed by threats of federal action. By 1963, thirty-three states, mindful to prevent direct federal involvement or greater oversight into their internal affairs, passed legislation to establish water quality standards.³⁹

President Johnson made clear the need for greater federal action against water pollution in his 1965 “State of the Union” address. He noted “that of all the reckless devastations of our national heritage, none is really more shameful than the continued poisoning of our rivers and our air.” Turning away from the federalism of the Eisenhower presidency, Johnson signaled a new federal approach resolving to end “the wasteful and degrading poisoning of our rivers” and challenged Congress to provide the means and methods to “clean completely entire large river basins.”⁴⁰

Responding to Johnson’s call, Congress passed the Water Quality Act of 1965. This act required states to adopt water-quality criteria standards for all interstate waters and to implement and enforce plans for those standards by June 1967. If a state failed to

³⁸ “Pollution Problem Foremost,” *AJ*, 1 August 1962; “State Water Law Held Inadequate,” *AJ*, 29 October 1963.

³⁹ Milazzo, 82-86; For an example of state leering of federal intervention, see “A Joint Responsibility,” *AJ*, 16 July, 1961.

⁴⁰ Irwin Unger, *The Best of Intentions: The Triumph and Failure of the Great Society Under Kennedy, Johnson, and Nixon* (St. James, NY: Brandywine Press, 1996), 132-133.

act, the federal government would adopt standards, which states could modify upon request. The Secretary of the Department of Health, Education, and Welfare (HEW), the federal agency authorized to administer the act, was empowered to seek abatement through court action if water quality standards were violated, after giving violators 180 days of notice.⁴¹

Belatedly, Georgia saw this legislation coming and acted accordingly. The Georgia General Assembly passed the Georgia Water Quality Control Act of 1964, which created the State Water Quality Control Board (SWQCB) as the state's first full-time water pollution control agency. Among other things, the SWQCB was charged to survey the extent and effects of pollution to the state's waters, to develop a comprehensive program for prevention and abatement, to conduct and cooperate in research on waste treatment, and to establish or revise standards for water quality.⁴²

R.S. "Rock" Howard, the man chosen as Executive Secretary to the SWQCB, was as solid a pollution fighter as his nickname implies. Within two years of his being named SWQCB director, the agency would grow from a staff of himself and one secretary to a contingent of 18 engineers, chemists, and biologists. This team articulated an approach to environmental regulation that explicitly linked the state's future prosperity to the quality of its rivers and streams. Although Howard jealously guarded the state's right to monitor its own water quality, he was a consistent advocate for greater federal financial assistance and technical training to aid communities in combating water pollution. Most importantly, during his ten years as director, he demonstrated that he would urgently and

⁴¹ Ibid, 85; Melosi, *The Sanitary City*, 336.

⁴² *Georgia Water Quality Control Act: Acts and Resolutions of the General Assembly of the State of Georgia*. 1964 Vol. 1, pp. 416-436. Law #870 (HB 730).

impartially enforce state and federal water laws after his initial attempts at persuasion had failed.⁴³

Howard had his work cut out for him when he began but he acted quickly and decisively. He implemented two important rules upon taking the helm. First, he required all domestic sewage to receive at least secondary biological treatment, and all industrial wastes would receive treatment equivalent to secondary treatment. Second, in accordance with the requirements of the federal 1965 act, the SWQCB began to set up water standards for all waters—intra and interstate—flowing through Georgia. To that end, the board sought to specify the maximum degree of pollution permissible in accordance with the public interest in water supply, game and fish conservation, agriculture, industrial, and recreational uses.⁴⁴ These standards included criteria for bacteria, acidity, alkalinity, dissolved oxygen, taste, odor, solids, turbidity, temperature, mineral compounds, toxic substance, as well as other pollutants. In doing this, Georgia became one of the first

⁴³ In 1968 Howard threatened to resign over proposed changes to federal water programs were not acceptable because they would cause federal intrusion and would be administered, he believed, with a lack of expertise. The new policy proposal would require state and federal agreement for handling any increase in pollution in any waterway. “State Pollution Control Chief Threatens to Resign,” *AJ*, 29 February 1968.

⁴⁴ The 1964 Water Pollution Control Act prescribed a regulatory system consisting mainly of state-developed ambient water quality standards for interstate and navigable waters. The standards for any particular segment of a water body depended on the uses (e.g. agricultural, industrial, recreational) which the state wanted to facilitate. For example, according to the SWQCG “Water Use Classifications and Water Body Standards,” the Chattahoochee River was to be suitable for industrial use between Peachtree and Cedar Creeks and fishing between Cedar Creek and Franklin, Georgia. Furthermore, enforcement was possible only where a discharge reduced the quality of the water below the specified ambient level. Enforcement proved difficult because multiple polluters discharging into the same stream or lake presented problems of proof similar to those encountered under nuisance law. ARPMC, “Atlanta Region Metropolitan Plan: Water and Sewage” (Atlanta: Atlanta Region Metropolitan Planning Commission, 1969), 24; Roger W. Findley and Daniel A. Farber *Environmental Law* (St. Paul: West Publishing Company, 1985), 102.

states in the nation to have its plans accepted as in compliance with the 1965 federal act.⁴⁵

Although the SWQCB actions would eventually compel Atlanta to act on its pollution problems, the city was in no position to tackle more stringent water quality demands in the mid-1960s. Studies published by the Atlanta Region Metropolitan Planning Commission (ARC) in 1963 and 1964 on regional water and sewer needs confirm this. The ARC identified the major physical and administrative problems associated with Metropolitan Atlanta's numerous sewer systems. Chief among its concerns was the amount of untreated sewage that entered the city's three major rivers as a result of WWTFs that could not meet the demands of new population growth. The City of Atlanta by this time operated eight of nine WWTFs in the Metropolitan Sewer System, which had expanded to include contracts between the City of Atlanta, three counties (Fulton, DeKalb, and Clayton), and four cities (Atlanta as well as College Park, Hapeville, Forest Park). The four plants that it operated on the Chattahoochee River only provided primary treatment.⁴⁶ Even in the best conditions such treatment only removed 35 percent of the pollutant materials before water was discharged into the river. To make matters worse, the massive R.M. Clayton plant, which serviced nearly 450,000 people and received almost half of the all waste in the study area, was badly overwhelmed. Designed for a treatment capacity of 42 MGD, by 1964 the average flow through the plant was 66 MGD. As a result, water in the Chattahoochee below Atlanta was deemed unsafe for recreational uses and was placed off-limits for boating, swimming, and fishing.

⁴⁵ 1956 Act testimony, 527-529; "Statement on Water Pollution Control in Georgia" 1970, EPD, Director's Subject Files, RCB 25122, Box 2, File 86336, Georgia Archives;

⁴⁶ In addition to the R.M. Clayton and Utoy Creek Disposal Plants, Atlanta added the Sandy Creek (3 MGD) and Camp Creek (2.5).

Atlanta's immediate downstream neighbors had to secure water supplies from other sources.⁴⁷

Even with secondary treatment of its received waters, the South River had to deal with purification problems of its own. Problems there arose because of the small natural flow of the South River headwaters. In fact, the ARC questioned whether it was a "river" at all, at least until it received the large volumes discharged from four different WWTFs. The natural flow of the river was about equal to the amount of sewage effluent that was dumped into it, yielding a dilution ratio of one to one, which was a cause for concern.

The ARC also was concerned about the diversion of water from the Chattahoochee to other watersheds. This occurred because Atlanta straddles several basins. Water was drawn from the Chattahoochee and piped under pressure across ridge lines to residences, businesses, and industries in other drainage basins. The used water was then collected by gravity flow, treated and discharged into other rivers, notably the South and Flint Rivers. The Flint River eventually rejoined the Chattahoochee on its way to the Gulf of Mexico, but the South River flowed toward the Atlantic coast.⁴⁸

Added to the imposing physical problems were administrative and financial ones as well. Metropolitan Atlanta had twenty-three separate wastewater facilities in the mid-1960s, many of which criss-crossed natural drainage lines and political barriers. Here again one can see the obstacles imposed by the local topography but exacerbated by

⁴⁷ ARMPC, "Water and Sewerage Problems in Metropolitan Atlanta" (Atlanta: Atlanta Regional Metropolitan Planning Commission, 1964), 7, 9, 12-13; On population served see, Wiedeman and Singleton Inc, "Report on Water Pollution Control for the Chattahoochee River by the Atlanta Metropolitan Sewer System," (December 1965), ii.

⁴⁸ ARMPC, "Water and Sewerage", 20-21.

political boundaries. While cities and counties straddle numerous drainage basins, water flows in several directions, making it very expensive to construct facilities sufficient to treat all the waste. Either the city or county must build several different WWTFs—each at a different downstream location—or pump and pipe all wastes to a central facility. Neither alternative is cheap.

Some of the overloading of Atlanta’s wastewater disposal plants stemmed from the fact that the city was essentially catching wastes from adjoining areas and had to factor this into its facility capacities. Water from northern DeKalb County, for example, flows westward through Atlanta to the Chattahoochee. East Point’s waste actually went into four different treatment plants owned and operated by Atlanta. Negotiated contributions by the adjoining political entities whose waste flowed into the Metropolitan Sewer System helped defray some of the costs of maintaining the system.⁴⁹ But it was not enough to make up for lost ground, and Atlanta did not seem willing to help itself. It continued to allow deferments on sewer “taps ins” while refusing to charge sewer service fees. In 1964, the Board of Alderman unanimously resolved to defer implantation of sewer charges until a new state constitution was written. It further resolved to prevent any sewer expansions or improvements that would benefit any other government unless that government contributed to the expenses. Although the city was justified in its expectation

⁴⁹ East Point, for instance, paid 16 percent of the operating costs of the R.M. Clayton plant, 14 percent for the Flint plant, 17 percent for the Utoy Creek plant, and 25 percent for Camp Creek plant. Forest Park paid six cents per one thousands gallons plus a share of the operating expenses based on the volume of total output. ARMPC, “Water and Sewer Needs,” 62-71.

to be paid for services rendered, the declaration to wait until a new constitution was adopted may be interpreted as a stalling act.⁵⁰

A separate report published by the Public Service Administration found a high degree of inefficiency across Atlanta's city government. Commissioned by the Department of Housing and Urban Development to determine the overall effectiveness of municipal governance in the burgeoning Sun Belt capital, the organization concluded that, despite high civic pride, Atlanta was a poorly run city. The report further argued that city's municipal administration required "fundamental alteration" to maintain its present levels of performance "much less fulfill its proper leadership role respecting community improvement in an expanding metropolitan environment."⁵¹

One feature of city governance that puzzled the authors was the separation of water supply and sewerage services into separate departments. The Sewer Division, it noted, competed for resources with several other divisions in the Construction Department. What is more, the city did not collect charges for these services. In contrast, it described the AWW as a "technically excellent waterworks fully able to meet both the present and future water demands of the City and surrounding area." The report not only recommended that the city should commence sewer service fees, but also that it merge

⁵⁰ City of Atlanta, Board of Alderman Minutes, Vol. 9, January 6 to December 21, 1964. Atlanta History Center; Efforts to revise the Constitution of 1945 began as early as 1963. A revised version drafted by a new revision commission was approved by the General Assembly in 1964 but, because of legal concerns about a mal-apportioned legislature, was never submitted to the people. Another major effort began in 1969 when the legislature created yet another constitutional revision commission. The resulting document received the approval of the house, but not the senate, in 1970.

⁵¹ Public Service Administration, *Government of the City of Atlanta: A Survey Report*, 1965 (Chicago: Public Service Administration, 1965), 3, 27-35.

the two operations into a single department to “help overcome the serious lag which exists in the provision of sewer service.”⁵²

Feeding off the ARC and other reports, editorialists, columnists, and staff writers at the *Atlanta Journal* began to portray water pollution not just as a local problem but one that affected the entire metropolitan area. In April 1964, for example, just two months after the ARC’s publication, an *Atlanta Journal* editorial openly pleaded for the establishment of direct sewer taxes to pay for needed new construction and further argued that “our shortsightedness in this respect is a deterrent to new industry. It is inconsiderate of downstream neighbors. It can develop into a health menace.”⁵³

Amidst the clamor for sewer taxes and sense of bewilderment over the slow pace of change, editorialists began to float the idea of a single regional authority to oversee all water-related issues on a regional or river basin level. The concept had first been aired during the 1930s for sanitary authority and was revived again in the late 1950s when Mayor Hartsfield, optimistic about the Metropolitan Sewer agreements, shrugged it off as “behind the times.” But as the ARC and staff writers increasingly pointed out the myriad financial problems that faced the numerous sewer systems in the metro area, the idea regained some currency. Local officials, determined to maintain control and ostensibly satisfied with the current state of affairs, resisted calls for a metropolitan sewer authority. The most they were willing to do was organize an association or “get-together” of

⁵² Ibid, 37-38, 91.

⁵³ “Now, for Tomorrow,” *AJ*, 29 April 1964; “A Metropolitan Problem,” *AJ*, 27 May 1964.

sanitary experts from the five-county region so that they might facilitate the exchange of information.⁵⁴

In addition to feeling pressure from the press, local officials had to contend with the newly created SWQCB. While sympathetic to Atlanta's financial woes, the Board in 1965 requested that the city submit its abatement program after HEW Water surveys (referenced in the Introduction) determined that pollution of the Chattahoochee was critical and remedial measures were unavoidable.

Before the city presented its plan, a delegation of officials traveled from Georgia to Washington D.C. in June 1965 to testify before Senator Ed Muskie's subcommittee investigating the effectiveness of the 1956 Water Pollution Control Act. In addition to "Rock" Howard, the group included Hartfield's successor Atlanta Mayor Ivan Allen, Jr. and the city's Chief Pollution Control Engineer, Robert Morris. As to be expected, all parties encouraged greater federal and state assistance to aid in antipollution measures. They did so, however, for different reasons. Comparison of their testimony illuminates not only the different roles and concerns of the environmental violator and the environmental regulator; it also provides insights into how they would respond to the pollution problem in question.

For Atlanta the violator, the problem was somewhat predictable: needed expansions were expensive and money was in short supply. According to Allen, who had testified before Congress in 1963 to urge passage of a Civil Rights Act, it would take 10 years and an estimated \$90 million in capital investments to bring all of Atlanta's sewer

⁵⁴ "Water-Sewer Plan Finds Mayor Cool," *AJ*, 7 November 1957; "A Swift Study Please," *AJ*, 27 November 1964; "Five-County Sanitary Idea Co-Op Forming," *AJ*, 24 July 1964.

facilities and collection network into compliance with state water quality laws. The mayor noted that the city's debt limit was \$200 million and "that has already pretty well been consumed," much of it spent on high profile construction projects like a major league baseball stadium, a downtown civic center, freeways, and marketing campaigns. Although Mayor Allen was surprisingly confident that "this city and its metropolitan neighbors will solve its present-day problem and continue to provide an adequate development base for the future," he argued that it could do so "only at the cost of full government as that assistance might be available."⁵⁵

Most revealing was the apparent self-centeredness with which the Atlanta officials discussed the problem of ongoing water pollution. Both Allen and Morris registered their concern over the proposed construction of West Point Dam, which was initiated under the Flood Control Act of 1962 to provide water storage for power generation and navigation on the Apalachicola-Chattahoochee-Flint Waterway. Prior to the testimony, many Atlanta officials worried, without a trace of irony it seems, that a dam restraining the Chattahoochee's flow 60 miles below the city might have a negative effect on the river's ability to dilute Atlanta's waste discharges. If Atlanta could not get a grip on its pollution, they hypothesized, then the proposed dam would create a "sludge lagoon"—a smelly nuisance incapable of supporting fish life and a potential hazard to human health.

Morris made clear that Atlanta would continue to require the greatest assimilative capacity of the Chattahoochee's waters because "the idea we live with today is that a partial answer to pollution is dissolution." And while Allen acknowledged that the

⁵⁵ 1956 ACT Testimony.

federal dam above Atlanta had made possible a continuing flow of water for his city's demands, he seemed to lay responsibility for any future problems at the government's feet for proposing a facility that would benefit downstream locales. He said, "When you go south of here you activate a problem," he told the committee. "As you create the conservation of that water you are also faced with the problem of where we are going to put this sewage."⁵⁶

In contrast, Howard the state regulator had a more expansive view of total state water quality problems. A plain speaker, he laid out the progress his agency had made and the ways federal and state governments could offer assistance. Immediate sewage needs, which he said ran the gamut from small to medium-sized towns with no sewer system to Atlanta's behemoth metropolitan system, amounted to \$125 million, with Metropolitan Atlanta requiring half of the total cost. These pressing concerns necessitated increased federal and state appropriations, which he believed should be directed primarily toward facility construction. He next argued that there existed a need for accelerated research to develop more efficient and economical treatment methods, which could be accomplished by the federal and state incentive program to assist municipalities and industries in abating water pollution. Lastly, he maintained that greater technical training and a dedication to recruiting more specialists was "essential if we [the SWQCB] are to satisfactorily discharge our responsibilities of enforcement and surveillance."⁵⁷

Six months later, in December 1965, the city responded with Wiedeman and Singleton's engineering report, which conformed to the broad contours of SWQCB

⁵⁶ Ibid; On Allen's "Six-Point Program" of improvements, see Larry Keating, *Atlanta: Race Class, and Urban Expansion* (Temple University Press, 2001), 88-89.

⁵⁷ 1956 Act testimony, 527-537.

demands and Allen and Morris's concerns. It recommended that the R.M. Clayton, Utoy Creek, and Sandy Creek plants be enlarged and improved to provide secondary treatment for a cost of \$40,940,000. This program of expansions, the engineers assured, would provide for the removal of 85 percent of the organic matter from the expected 117 MGD of wastes to be discharged into the river by a serviced population of 1,420,000 in 1985. They further stated that while this could be accomplished within the SWQCB's established criteria of 4.0 milligrams per liter of dissolved oxygen and with the existing 1600 c.f.s. that flowed by the facilities, that re-regulation, i.e., damming of the river would probably have to occur at some time in the future. The report from the engineering consultants also contained a contingency clause regarding the ramifications of restraining the flow of the Chattahoochee below Atlanta. The report, in fact, stated Atlanta's position clearly: maintenance of the proposed quality of service was based upon "the right of the Atlanta Metropolitan area to use the free flowing river for assimilation of its wastes after giving them the highest practical degree of treatment."⁵⁸

On March 1, 1966, the SWQCB accepted the recommended plan and informed the city that it had until July 1, 1971 to complete all water pollution control projects in operation on the river. In September 1966 the City of Atlanta imposed its first sewer service charge, set at the rate of fifty percent of one's water bill. The feeble rate, further reduced by grant of numerous exemptions, failed to muster sufficient revenue to support the issuance of bonds. The revenue shortfall prompted a series of conferences that slipped the compliance deadline to December 1972. When, in December 1970, it became apparent that the City of Atlanta was "again falling behind in an agreed upon schedule

⁵⁸ Wiedeman and Singleton, "Chattahoochee Report," i, ii; "Sad Song of the Chattahoochee," 3 November 1963.

and has failed to enact needed sewer rates to finance the necessary program” the EPA and SWQCB stepped in with the measures described at the beginning of this chapter.⁵⁹

THE BIG CLEAN UP, 1972 -1985

In February 1971, the U.S. Senate Subcommittee on Air and Water Pollution held a series of oversight hearings to evaluate recent funding and manpower experience in the expanding federal effort to curb water pollution. Chaired by Senator Edmund Muskie, this panel was particularly interested in the efficacy of the Clean Water Restoration Act of 1966, a grants-in-aid program by which the federal government covered 30-55 percent of the cost of constructing public owned sewerage treatment plants. Set to expire in June 1971, this program had radically increased the scale of annual federal funding over the previous five years from \$150 million to \$1.5 billion in order to help local communities comply with the state-created water quality standards imposed by the 1965 Clean Water Act.⁶⁰

As previously stated, Atlanta Mayor Sam Massell testified before the Senate subcommittee less than two months after the EPA and SWQCB issued abatement orders against the city of Atlanta for its continued pollution of the Chattahoochee River. Massell did not so much defend Atlanta’s apparent negligence as lay bare a set of cascading dilemmas that hampered efforts to implement effective water pollution control policies in

⁵⁹ R.S. Howard to Mr. C.E. Drummond, Jr, “RE: Report on Water Pollution Control for the Chattahoochee River by the Atlanta Metropolitan Sewer System” enclosed with Wiedeman and Singleton report. p. iv; “State Water Quality Control Board of the State of Georgia vs. City of Atlanta, Georgia, December 9, 1970,” Environmental Protection Division, Director’s Office, Director’s Subject Files, 1965-1977, RCB 25122, Box 2, Georgia Archives.

⁶⁰ U.S. Congress, Senate, Committee on Public Works, *Hearings Before the Subcommittee on Air and Water Pollution*, 92nd Cong., 1st sess., 4,8,9 January 1971, 2 (hereafter sighted as 1966 Act testimony); Peter Rogers, *America’s Waters: Federal Roles and Responsibilities* (Cambridge: The MIT Press, 1996), 58.

American cities. Chief among the mayor's concerns was the financial exigencies that urban areas faced. Armed with a study by the U.S. Conference of Mayors and the National League of Cities, Massell testified that average annual investments in WWTFs had risen from \$760 million in 1956-1960, when the initial construction grant provisions began, to nearly \$2 billion in 1970. This greatly increased local commitment had occurred, he maintained, when local revenue sources had become severely taxed to meet rapidly growing demands. Worse still, recent studies estimated that addressing water pollution in American cities would require between \$33 and \$37 billion over the next five years. The mayor thus argued that while federal outlays had provided communities with valuable assistance, the existing level of federal participation was insufficient to meet future needs.⁶¹

State inaction, Massell believed, added another degree of complication. The 1966 Act had called for federal contributions to rise to 50 percent when individual state governments provided 25 percent of the cost of construction. Massell charged that many states such as Georgia had failed to actively contribute matching funds to local initiatives, due to lack of concern or money. State non-performance, he contended, not only violated the spirit of the grants-in-aid program but often left cash-strapped cities with the burden of having to pay up to 70 percent of the cost of constructing sufficient WWTFs.

Equally important, Massell maintained, was the "limited public interest in the whole area of pollution." "When pollution control costs the average citizen money," he explained to the senators, "its appeal to him diminishes." Besides, the issue had attracted very little attention over the last century but now "this generation all of a sudden has to

⁶¹ 1966 Act testimony, 703- 704. "Massell Raps Pollution Act," *AJ*, 4 February 1971

pay for it.” As evidence of the problem of public apathy, Massell pointed to Atlanta’s difficulty in raising the \$25 million needed to cover its share of the required secondary treatment plants on the Chattahoochee River. He argued that the Atlanta Aldermanic Board concluded that it was necessary to raise water and sewer charges through legislative fiat in order to fund the bond issue. “If we had to go to referendum to raise sewer service charges 80 percent like we did,” the mayor ruefully surmised, “I am afraid that we would have kept our pollution or whatever the penalty was of a 180-day mandate. I don’t believe it would have passed.”⁶²

Like Mayor Allen before him, Massell clearly feared that Atlanta had reached the extent of its political and financial ability to resolve its water issues without greater federal and state assistance. On behalf of the U.S. Conference of Mayors and the National League of Mayors he presented a set of recommendations that urged assured appropriations of between \$3 and \$4 billion over the next five years as well as that the federal share of costs for all grants aiding local sewage treatment programs be increased to 75 percent regardless of state participation.

Congress responded by enacting its most thorough revision of existing federal water laws: the Water Pollution Control Act Amendments of 1972. Comprehensive in scope and designed to prevent, reduce, and eliminate pollution, the act established a tight regulatory system with precise and detailed abatement requirements, streamlined enforcement procedures, and heavy penalties for violations. It further set goals for swimmable-fishable interstate and intrastate waters by 1977 and zero pollutant discharges by 1983. In order to achieve these goals, the Act not only authorized \$18 billion for

⁶² “Massell Raps Pollution Act,” *AJ*, 4 February 1971; Massell testimony, 703, 713, 714, 716.

construction grants over the next three years but also increased the federal share of construction to 75 percent, with state and local governments to pay the balance.⁶³

The Act reflected the profound transformation in the public's general understanding of and concern for the environment. During the 1960s and early 1970s many Americans began to question the legitimacy of rampant economic and suburban development, as well as scientific and technological developments, as they demonstrated their profound effect on ecosystems. This criticism of postwar consumption and expertise was informed, in no small part, by the ideas of popular ecology writers such as Rachel Carson, Aldo Leopold, and Barry Commoner. As Paul Charles Milazzo explains, these writers "conveyed a common ethical imperative to a wide audience with finely crafted prose" that suggested not only that "everything is connected to everything else" but also that scientists and engineers were often guilty of a "technological hubris" that led to the estrangement of society from nature.⁶⁴

Charles Paul Milazzo has also keenly documented the rise of an alternate environmental outlook, one based in the highly technical field of systems analysis. As Milazzo explains, most professional ecologists in the years after 1945 "treated the basic unit of study, the ecosystem, as a self-contained, self-regulating entity that could be quantitatively described and rationally managed." This alternative mode of modern environmentalism, paradoxically, drew its inspiration from the very same community that popular ecological writers such as Carlson and Commoner often criticized: the technocratic engineers and scientists who had attempted to coordinate and manage

⁶³ EPA, *The Federal Water Pollution Control Act Highlights*, 3.

⁶⁴ Milazzo, 9, 90-91; Ted Steinberg, *Down to Earth: Nature's Role in American History* (New York: Oxford University Press, 2002), 206-225.

“sprawling defense-related bureaucracies of the Cold War.” This language of “systems thinking,” moreover, appealed to legislators and congressional staffers seeking to pass more effective environmental regulations because it proposed “solutions in keeping with the technical methods and administrative ethos prevalent in other policy areas.”⁶⁵

The ecosystems discourse structured the way federal legislators framed water policy during the 1970s and beyond. Regional planning and effluent limitations to protect the biodiversity of aquatic ecosystems replaced the attempts to produce and enforce localized “ambient” water quality standards. Moreover, even while states retained the responsibility of monitoring wastewater discharges, authority for implementation and enforcements was shifted from the state to the federal level.

State surveillance had been an important component of water pollution control. Indeed, even before Atlanta had made any progress toward abating its pollution of the Chattahoochee River, the SWQCB set its sights on forcing the city to rectify the long neglected but “deplorable” condition of the South and Flint Rivers. In 1972, Howard’s team presented a report based on a three year water quality monitoring program that included analysis on the Chattahoochee, South, and Flint Rivers to determine the effect of wastewater discharges and urban runoff on the quality of those streams.⁶⁶

Even though the travails of the grander Chattahoochee garnered headlines, locals had known about how susceptible the smaller streams were to pollution for a long time. With their headwaters contained within urbanized areas and their consequent minimal stream flow, these smaller waterways had long been nuisances for those unfortunate

⁶⁵ Milazzo, 89-111.

⁶⁶ “Hearing to Hit South River” *AJ*, 20 July 1971.

enough to reside near their banks. South River is actually located in the headwaters of the Altama River Basin. It drains much of the southeastern portion of the Atlanta metropolitan area and flows into Lake Jackson, where its confluence with the Yellow and Alcovy Rivers forms the Ocmulgee River. The Flint River drains the south-central part of the metropolitan area. Its headwaters are in Hapeville and south Atlanta. It flows through Hartsfield–Jackson International Airport to Griffin, Albany, and Bainbridge. The Flint River joins the Chattahoochee River at Jim Woodruff Dam to form the Apalachicola River. In its lower reaches, the Flint has served as one of the most important streams in Georgia. Up near its point of origin, it is smaller than both the Chattahoochee and the South Rivers.⁶⁷

The SWQCB studies gave new insights into how bad pollution had become. Beginning at the R.M. Clayton plant just below the AWW intake, the Chattahoochee was characterized by poor quality for a reach of some seventy miles, of which the first forty were found to be “grossly polluted.” In the hot, dry months of July through August, the river may have even been in “near septic conditions” for a reach of over thirty miles where the fecal coliform levels were so high that the river could not meet Georgia’s fishing criteria. Urban runoff and large discharges of untreated and inadequately treated wastewaters from the metropolitan area in general, but from the City of Atlanta, were responsible for these problems.

⁶⁷ The South River, an interstate stream, had not been classified for any particular water use, but water quality objectives had been set forth by the SWQCB in 1971. These objectives were that the South River from its headwaters to Snapping Shoals was to meet the criteria for urban stream classification, and from Snapping Shoals to Lake Jackson were to meet fishing classification. Its classification changed from industrial near its headwaters to fishing and ultimately drinking the further south it goes. Georgia Water Quality Control Board *Water Quality Data: Atlanta Area: Chattahoochee, Flint, and South Rivers 1970 and 1971* (Atlanta: Georgia Water Quality Control Board, 1971), 5.

The South River was heavily polluted for much of its length from the metropolitan area to Lake Jackson. The proposed criteria for dissolved oxygen, bacteria, ammonia, and toxic substances were not at all met at any point in the 44 mile stretch of the South River, which was monitored during the study period. These conditions were caused by inadequate and inconsistent wastewater treatment, combined sewer overflows, urban runoff, and a large volume of wastewater relative to the amount of natural stream flow available for waste assimilation. The relatively high fecal coliform levels found in the South River constituted a potential health hazard in the stream, and high nutrient concentrations promoted biotic blooms and contributed to the eutrophication (unwanted plant life choking animal life) of Lake Jackson.

The Flint River was heavily polluted for at least twenty miles below its headwaters near the airport. So little natural flow was available for natural assimilation and dilution of wastewater in the upper reaches that the sheer volume of treated wastewater lowered the dissolved oxygen concentration of the stream. Moreover, complex industrial wastewaters, untreated wastewaters and inadequate treatment from Clayton County were primarily responsible for those conditions.⁶⁸

In order to meet the 1977 deadline for achieving the discharge requirements mandated by the 1972 federal act, the City of Atlanta resolved in the fall of 1972 to initiate a program to evaluate effective treatment alternatives and to develop cost effective and environmental acceptable means to bring the city into compliance with the new discharge requirements being established by Georgia's primary agency for protecting air, land, and water resources, the Georgia Environmental Protection Division

⁶⁸ Ibid, 17, 19-21.

(EPD), for the rivers in question. In January 1973, Atlanta retained the services of Black, Crow and Eidsness, a prominent environmental engineering consulting firm from Gainesville, Florida to provide a comprehensive study for abating pollution in these rivers. Completed in April 1974, the report made two basic recommendations: 1) treated wastewaters from the Intrenchment Creek, South River, and Flint River should be conveyed back to the Chattahoochee River, and 2) initial or “first flush” sewer system overflows should be treated before discharged.⁶⁹

The main problem was getting the water back to the Chattahoochee. Two alternatives were suggested. One was that the city could dig a ditch through south Fulton County, lay a pipeline, and pump water across the sub-continental ridge. This was expected to cost \$96,944,000. The cheaper alternative, which was finally decided upon in 1977 after two subsequent engineering reports and a public hearing “to inform interested individuals,” would be to tunnel some 200 feet underground into the hard rock and

⁶⁹ City of Atlanta, Bureau of Pollution Control, Department of Environment and Streets, *City of Atlanta: Three Rivers Quality Management Program* (1978), 5-6. (hereafter cited as BPC); The complexity and sized of the project prompted City of Atlanta choose numerous consulting engineering firms for the Three Rivers program. The program was divided into ten different sub-projects to reduce the design period from that normally required for a project of this size. Atlanta’s Department of Environment and Streets then selected design firms that it considered qualified to handle each individual project. Black, Crow and Eidsness Inc. was a prominent environmental engineering firm in the Southeast that specialized in water and wastewater projects. In 1977 it merged with CH2M Hill, which sought to establish a presence in the eastern United States. By the end of the 1970s it had revenues of \$95 million and 1800 employees, making it one of the largest environmental engineering firms in the nation. In addition, environmental engineer John Reinhardt, of the Atlanta Department of Watershed Management, mentioned during an informal interview that Atlanta began to competitively bid consulting engineering services during the early 1970s, particularly after the 1973 election of Maynard Jackson, who emphasized minority business participation. Mr. Reinhardt asserted that this new focus on bidding effectively ended Wiedeman and Singleton’s somewhat privileged relationship to the City of Atlanta. For general information about project organization, see BPC, 1978 Report, 9; on CH2M Hill history and merger with Black, Crow and Eidsness, see: http://www.ch2m.com/corporate/about_us/history.asp and <http://www.answers.com/topic/ch2m-hill>.

simply avoid the expense of pumping by allowing gravity to convey the water. The anticipated cost of tunneling was \$83,328,000.⁷⁰

The Three River Water Quality Management Program was to achieve improvements in three major areas. The first set of improvements involved enhancements to the city's existing Intrenchment Creek, South River, and Flint River "Water Pollution Control Plants" to enable them to produce an effluent quality satisfactory for discharge into the Chattahoochee River. The second set consisted of the construction of two Combined Sewer Overflow Storage and Treatment facilities, and construction of separate sanitary sewers in one area to reduce the number of pollutants from combined sewers entering Intrenchment Creek and the South River. The last group included construction of force main, tunnel, and gravity sewer systems to convey the treated wastewater from the above three disposal plants to the Chattahoochee River for discharge.⁷¹

Although work was scheduled to start in 1978, further design modifications, funding delays, and contract bidding conflicts prevented construction from beginning until January 1981. Originally sold to the public as an \$80 million project (of which the city was obligated to pay \$1.6 million), it soon mushroomed to more than \$200 million, which brought the city's share to \$37 million. Details are sketchy as to why this happened. One explanation was that the original design was flawed because it was based on inadequate studies. Local pollution control officials suggested that changes in water standards also required a reevaluation. City requirements that contractors pre-qualify for

⁷⁰ BPC, 1976 Report, Section 4; "Cleanup: \$81 Million Water Project Good News for Two Rivers," AJ, 7 February 1977; BPC "Atlanta Three Rivers Water Quality Management Program: Facilities Planning Update Report #3, (February 1980), Sctn 5, Pg 26-27.

⁷¹ BPC, 1980 Report, 1.

bid proceedings to ensure that they meet Atlanta's minority participation standards also caused delays. Any contractor denied a contract could file a protest against those contracts which were awarded on the grounds that the receiving firm was not fifty percent minority-owned. The greatest ire, at least from local engineers, was reserved for the EPA. Many local participants, such as Atlanta pollution control director George Barnes, complained of often unneeded archaeological studies, countless environmental impact statements (EIS), and unclear and changing EPA guidelines. But whatever the cause, Atlantans watched the sewer rates climb as a result of the delays.⁷²

Once funding and contract disputes were resolved by mid-1982, construction began in earnest. Discharges to the Chattahoochee River required the reduction of both BOD and ammonium nitrate during the summer months and only BOD reduction during the winter months. To accomplish this, the South River Plant was enlarged to a 35 MGD nitrifying activated sludge plant. In addition, the Flint River plant was abandoned. Flow previously handled by that plant was now pumped to the South River Plant. The Intrenchment Creek (a two-stage rock trickling filter plant) was also modified. During the dry weather, the Intrenchment Creek Plant was to operate as a two-stage trickling filter plant and its effluent pumped to the South River Plant for nitrification. During wet weather, one stage of the Intrenchment Creek Plant filters was to be used to treat normal flows. Combined sewer overflows in the Intrenchment Creek Basin were to be diverted into a twenty-six foot, two mile long tunnel just north of the Intrenchment Creek Plant. These overflows, after collection in the storage tunnel, were to receive chemical treatment (flocculation and sedimentation) followed by treatment in the second stage

⁷² "City Tunnels in Red Tape—3 Rivers Work Sinks Budgets" *AJ*, February 28 1979; "Three Rivers Project Starts Moving Ahead After Long Delays," *AJ*, 7 February 1982.

trickling filter prior to discharge to Intrenchment Creek. Normal wastewater effluent would be pumped from Intrenchment Creek to the South River plant for further treatment.

South River Plant effluent (including Intrenchment Creek and Flint River basin flows) was then diverted to the Chattahoochee through the Peachtree ridge. This diversion system consists of a 54 inch diameter, 2 mile force main, a 10 foot diameter, 7.5 mile tunnel, and a 68 inch diameter, 5.5 mile gravity sewer. The tunnel, constructed with a boring machine, was completed in December 1984.

An above-ground storage facility was constructed at the site of the third major combined sewer overflow point in the South River basin. The screen and de-gritted effluent from this facility was now discharged into a separate sanitary sewer that is a tributary to the South River Plant. The wastewater diversion system and plant modifications were completed in mid-1985.⁷³

CONCLUSION

As the preceding narrative amply demonstrates, it is doubtful whether the City of Atlanta would have fully committed itself to substantively improving the quality of its local waterways without the assistance or pressure of the federal government. Although Atlanta built a modern sanitary sewer system prior to WWI that could combat the immediate risks of water-borne diseases, over the next few decades the city proved to be

⁷³ BPC, "Facility Planning Update Report, (1980) Section 4-5; Robert Troxler, Debra Reinhart and Alan Hallum, "Metro Atlanta Water Pollution Control: A Decade of Progress," *Water Pollution Control Federation* 55, no. 9 (1983), 1121-1127; "Three Rivers Project Starts Moving Ahead After Long Delays," *AJ*, 7 February 1982; "City Opens Pollution Control Center System for South River," *AJ*, 17 December 1984.

financially ill-equipped and politically ill-disposed to making the changes that a rapidly expanding metro population and evolving environmental paradigm required.

The local topography certainly made providing wastewater treatment exceedingly difficult. Ridges and valleys carved the area into numerous drainage basins and necessitated the construction of numerous pollution control facilities, which were built with federal largesse. But the city's reliance on dilution, its reluctance to charge sewer fees until the late 1960s, and the inability of metropolitan governments to come to terms with the regional scope of pollution control problems made the City of Atlanta a flat-footed responder to the new ecological imperatives of the 1960s and 1970s. As result, when federal and state regulatory agencies began to actively promulgate new standards for water quality the city was left with little choice but to plead once again for federal financial assistance in managing the Chattahoochee's waters.

Although the Three Rivers project was successful with regard to increasing the flow of the Chattahoochee River, it was not the panacea many local officials thought it would be. As the next chapter shows, water pollution remained a divisive issue for many of Atlanta's residents and downstream neighbors, prompting some activists to challenge the expense and wisdom of particular pollution control strategies while motivating others to use the federal court system to force Atlanta to overhaul its entire wastewater infrastructure.

CHAPTER FOUR
TROUBLED WATERS: POLICY AND PROTEST OVER POLLUTION
CONTROL IN ATLANTA

We all know that the future of Atlanta depends on economic growth; it depends on jobs for all who want to work; it depends on keeping the City an affordable place to live; and it depends on an attractive and enjoyable quality of life. But what we sometimes forget is that all of these things – growth, jobs, affordability and quality of life – depend on something even more fundamental. They all depend on – clean water.

Atlanta Mayor Shirley Franklin, 2003

Despite the enormous amounts of public resources and energy spent in plans to treat and re-divert water back to the Chattahoochee River during the late 1970s and early 1980s, Atlanta continued to be plagued with problems stemming from chronic underinvestment in its water supply and wastewater systems. In addition to the broken, cracked and overburdened water distribution and sewer lines that led to excessive water wastage and groundwater infiltration, combined sewer overflows (CSOs) regularly belched untreated sewage and storm water directly into urban streams during heavy rainstorms. The city's existing wastewater treatment facilities (WWTFs) were ill-equipped to process the amounts of phosphorous-rich content of sewage that arrived in the plants. By 1995, after state-imposed fines and sewer connection moratoriums failed to convince the city to take decisive action, citizen activists, the EPA, and the EPD sued Atlanta over its persistent violations of federal and state water quality standards. Around the same time, Atlanta became the subject of a national cautionary tale when it entered,

and ultimately dissolved, one of the first contracts in the U.S. to privatize the operation of its aging municipal water supply system.

By 2002 Atlanta appeared fully ready to resolve the years of environmental and infrastructural inattentiveness. In that year, newly-elected Mayor Shirley Franklin vowed to create “the cleanest streams and rivers of any large city in America.” To that end, she convened a panel of local and national experts to counsel the city in how best to fulfill the orders of a federal Consent Decree that obligated the city to implement corrective measures for its CSOs. She further announced the beginning of the ambitious *Clean Water Atlanta* initiative, a multi-billion dollar long-term action plan designed to improve water quality in Atlanta through capital construction programs and enhanced operation of the City's drinking and wastewater systems. Lastly, to oversee the City's new comprehensive approach to solving water issues, Mayor Franklin created the Department of Watershed Management in order to unify the operations and administration of Atlanta's drinking water, wastewater, and storm water systems.¹

This chapter demonstrates that Mayor Franklin's aggressive approach to managing the area's water resources can only be understood as the belated reaction to the persistent application of pressure by exogenous actors such as federal and state governments and citizen activists. In the case of pollution control, for example, local environmental advocates realized during the 1990s that despite the recent diminishment of federal largess to support WWTF upgrades, existing federal legislation provided a

¹ Department of Watershed Management, City of Atlanta, Mayor Franklin's Speeches: “Clean Water Initiative”: 6 October 2002, http://www.atlantaga.gov/media/speech_index.aspx?section=Meet%20the%20Mayor (accessed March 29, 2011).

framework by which public-interest groups could legally challenge Atlanta's transgression of established water quality standards. Thus, through citizen-initiated court action, federal enforcement power could be brought to bear on the city. Likewise, litigation and the threat of direct federal intervention in determining regional water supply allocations stimulated the city and state to initiate policies that were more responsive to water users both within and beyond the Atlanta metropolitan area.

Chapter Four therefore examines some of the policies, practices, and protests that would lead to comprehensive water resources management in Atlanta. It analyzes the intense controversy surrounding three central issues in local wastewater policy that persisted despite the completion of the previously detailed Three Rivers Water Quality Management Program: CSO abatement, phosphorous control, and the repair and replacement of the city's sewer infrastructure. It also describes how years of neglect of the city's sewer infrastructure were reversed through the convergence of growing federal and state regulatory pressure for better effluent treatment, and an unexpected—but surprisingly effective—grassroots protest movement that found it necessary to use the federal courts as an instrument to force Atlanta into compliance with federal water quality law. Last, it concludes with a discussion of the debates and actions involved in Mayor Franklin's *Clean Water Atlanta* initiative.

ATLANTA'S DIRTY WATER: INCREASED REGULATION OF PLANTS, PIPES, & CSOs, 1985-1990

By the late 1980s, the city's pollution control officials were under mounting regulatory pressure to control more effectively long-standing wastewater issues not

adequately addressed by the 1985 completion of the Three Rivers Water Quality Management Program.

Phosphorous pollution emerged as one major problem that needed to be resolved. Phosphorous is a naturally occurring nutrient found in agricultural fertilizers, manure, organic wastes and a variety of other sources. It is an essential element of plant life and is harmless in small amounts. But high concentrations of phosphorous, which became prevalent with increased use of synthetic detergents after World War II, can lead to a reduction in dissolved oxygen in water bodies due to an increase of mineral and organic nutrients. This nutrient enrichment, known as eutrophication, can cause slow-moving rivers and lakes (which have limited self-purifying capacities) to turn green rapidly and choke with aquatic plant growth.²

Atlanta discharged significant amounts of phosphorous into local streams because its WWTFs lacked the necessary equipment to handle the amounts of phosphorous that entered the plants located on nearby waterways. This issue was compounded by the dueling collection systems serving the city. As previously explained, Atlanta leaders chose during the early formation of the city's sewer network to utilize combined sewer systems in order to effectively evacuate sanitary and storm water away from the downtown area and into outlying streams. As the city expanded and built numerous WWTFs, sanitary engineers installed modern sewers in the newer surrounding suburbs where the storm water would be collected separately and never mixed with sewage water.

² Chris Knud-Hansen, "Historical Perspective of the Phosphate Detergent Conflict," (paper presented at the National Resources and Environmental Policy Seminar, University of Colorado, Fall 1993); Melosi, *The Sanitary City*, 333-34.

The old combined sewers were then connected to the newer separate sewer system by smaller interceptor pipes.

This system typically operated efficiently under dry weather conditions because these interconnected systems were able to carry flows of waste straight to one of four sewer treatment plants. But heavy rainfall caused storm water runoff, which increased significantly as a result of continued street paving and urban development, to overload the entire system. As street water flooded the combined system, it mixed phosphorous-rich sewage with millions of gallons of storm water. The smaller interceptor lines that connected the new system to the old were quickly filled to capacity. Sewer treatment plants therefore went into rapid processing mode to accommodate the overload, but often failed to meet state discharge limits for phosphorous and other pollutants. During heavy rains, moreover, the excess of combined storm and sanitary waters were not treated at all. Rather, this stew of chemical and biological water was released through relief structures known as combined system overflows (CSOs) into nearby creeks before arriving in the WWTFs. The resulting un-filtered debris and wastewater, which contained bacteria and chemical levels hundreds of times higher than acceptable, flowed through parks and neighborhoods and to those communities downstream from Atlanta.³

Although the City of Atlanta stopped constructing combined sewers during the 1920s, 330 miles of these sewers and eight CSOs continued to be used in downtown and Midtown areas throughout the twentieth century. This continued to occur despite the fact that engineers and public health officials as early as the 1950s had suspected CSO design

³ Environmental Protection Division, Office of Water, *Report to Congress: Impacts and Control of CSOs and SSOs* (Washington D.C., 2004), 1.1, 2.1-2.3; Gordon Masker Fair, John Charles Geyer, and Danaiel Alexander Okun, *Water and Wastewater Engineering: Volume I: Water Supply and Wastewater Removal* (New York: John Wiley & Sons, Inc., 1966), chapter 3; DWM, COA, "Asset Management Case Study," (n.d.), 4.

to be “a prime culprit in the inability of existing systems to operate efficiently.”⁴ In fact, in 1953 Atlanta contracted with the consulting engineering firm of Wiedeman and Singleton to investigate complaints of noxious odors emanating from several area CSOs. Still reliant on the assimilative capacity of streams, the engineers recommended that the city defer substantive action in favor of “expanded maintenance and operation.” Sewer separation was an option never considered in their report. Instead, the consulting engineers suggested frequent inspection and cleaning of interceptor grates and the possible raising of overflow weirs, the paving of outlets, and installation of fire hydrants to prevent the exposure and pooling of wastes “when the conditions are such that they might become a source of nuisance.”⁵

The proverbial can was kicked further down the street in the 1960s and 1970s. Existing federal grant-in-aid programs, which covered the lion’s share of water remediation expenses in most cities, only assisted in the construction of treatment facilities, not the enhancement of sewer collection systems. Atlanta mayors Ivan Allen, Jr. and Sam Massell realized this constraint when they respectively appeared before Congressional committees in 1965 and 1971. Although each mayor’s testimony touched upon the need for sewer separation and general collection system upgrades, they pragmatically chose to concentrate on obtaining more federal assistance for achieving the required secondary treatment levels rather than challenging Congress to expand the scope of its funding considerations. Thus, CSO control remained a secondary concern and

⁴ Melosi, *The Sanitary City*, 325-328.

⁵ Wiedeman and Singleton Inc, “Storm Water Overflows” (February 1957), 11-13.

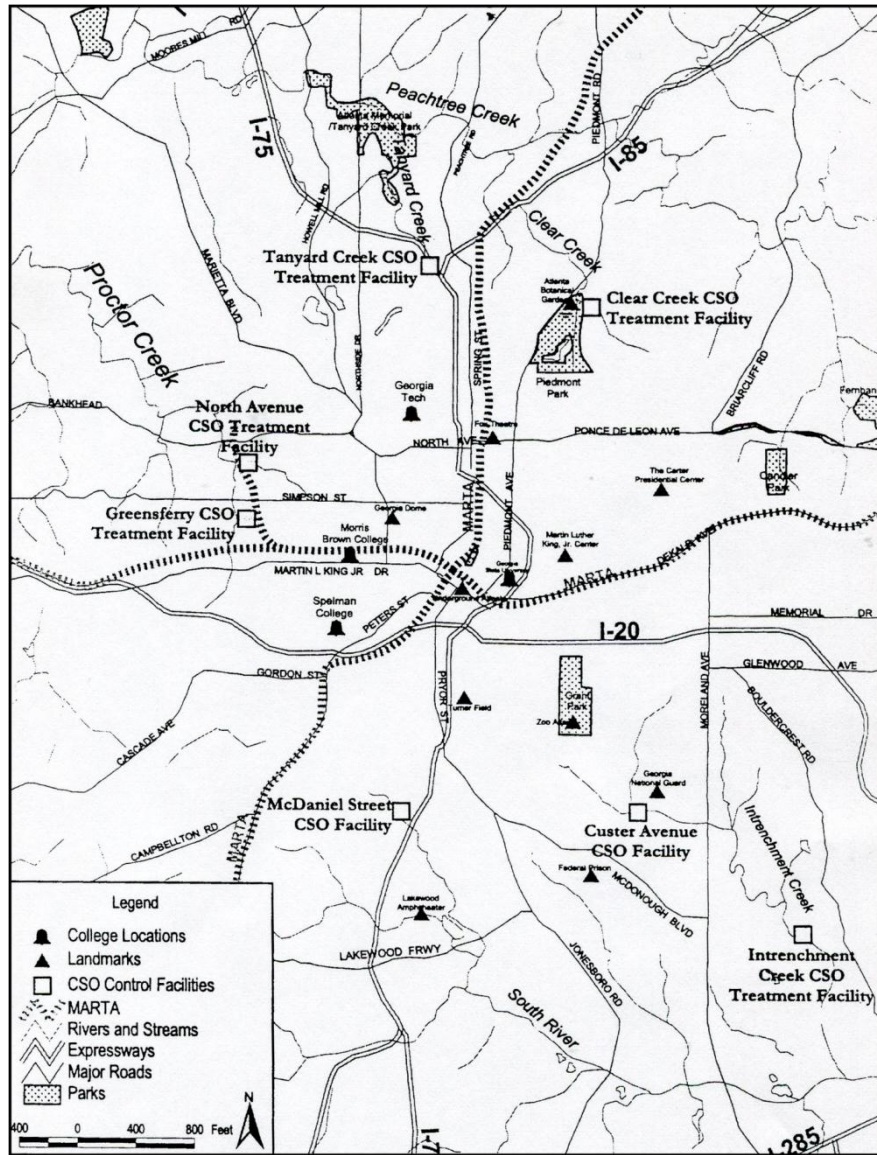


Figure 4.1— Combined Sewer Overflow Locations. (Source: CH2M Hill/TOC.INC, *City of Atlanta CSO System Evaluation Plan*, 2002)

factored only minimally into the subsequent treatment facility upgrades and tunneling that took place as a result of the Three River program.⁶

The 1980s proved to be an even less hospitable time for Atlanta to attempt a major overhaul of its sewer system. Instead of allocating more money to help urban areas repair their deteriorating infrastructure as many city leaders had hoped, the Reagan Administration actually reduced federal grants to cities by \$14 billion through passage of the Omnibus Budget Reconciliation Act of 1981.

This new policy of “beneficiary pays” also coincided with a general feeling among national policymakers that the previous decade’s onslaught of environmental legislation promised more than could be delivered. Critics charged that the regulatory mechanisms stipulated in the 1972 Federal Water Pollution Control Act—later named the Clean Water Act (CWA)—were not only inefficient, but that the Act’s zero-discharge goals were also largely unattainable, had overemphasized single pollution-control measures at the expense of more comprehensive approaches, and were potentially harmful to the nation’s economic health.⁷

⁶ 1956 Act testimony, 491; 1966 Act testimony, 703-06, 711-18; The Three Rivers Water Quality Management Program did include provisions sewer separation and for capturing, storing, and treating “first flush” CSOs in the Intrenchment Creek and South River basins. Under the plan, combined sanitary and storm water were conveyed through an open concrete channel in Intrenchment and Stockade Creeks from CSO discharge points to a diversions structure located near the confluence of the two streams. From there the flows were further diverted into a two-mile, twenty-four foot diameter bored tunnel where the wastewater was stored until weather conditions permitted it to be pumped to and treated at the Intrenchment Creek WWTF. BPC, “Three Rivers Update Report # 3,” 1, 5.

⁷ Melosi, *The Sanitary City*, 387-91; Rogers, *America’s Waters*, 64-67.

Local demographic shifts and political apathy also contributed mightily to postponing badly needed improvements to Atlanta's wastewater system. Between 1970 and the mid-1980s, Atlanta's share of the total metropolitan population had declined by an estimated thirty-seven percent as some folks left the city and others settled into the suburban fringes of the metropolitan area. In addition, these suburbanites, as historian Kevin Kruse points out, not only resisted Atlanta's repeated attempts at annexation but also rebuffed many pleas to share in the costs of any "metropolitan" approaches that linked the city and suburbs together, despite the fact that many of them were users of Atlanta's multi-county sewer system. Finally, even while faced with a diminished tax base, the City of Atlanta did itself no favors by consistently refusing to increase sewer service charges to the levels necessary to abate its pollution problems. Between 1978 and 1983, for example, the city raised water and sewer rates only once. And while this forty-four percent increase in funds was substantial, it was largely dedicated to meeting the financial obligations of the Three Rivers program.⁸

By the late 1980s, Georgia's environmental agencies informed Atlanta officials that the city could no longer "make the Chattahoochee its toilet."⁹ In 1989, the state assembly established phosphorous control limits after EPA and Georgia Department of Natural Resources (DNR) water quality tests confirmed eutrophication had occurred in West Point Lake, the first major reservoir south of Atlanta. Recognizing that upstream treatment plants were the principal cause of algae blooms, reduced clarity, strong odors, and fish kills found in the lake, the EPD subsequently issued an Administrative Order

⁸ Atlanta Development Authority, "A Conversation About Growth in the City of Atlanta" (2005), 5; Kruse, *White Flight*, 244-251; W. Marshall Sanders, "Policy and Protest: An Analysis of City Wastewater Treatment Issues," (1995) Research Atlanta, Inc., Policy Research Institute, Georgia State University, 13.

⁹ "Atlanta's CSOs Plan is Only a Drop in a Polluted Bucket," *AJC*, 28 June 1989.

requiring all major WWTF discharges (larger than 1 MGD) between Lake Lanier and West Point Reservoir to reduce the average concentrations of phosphorous in effluent to 0.75 milligrams per liter (mg/L) by December 31, 1991.¹⁰

Similar directives were also issued regarding CSOs. In June 1989, the DNR instructed the City of Atlanta to initiate plans to control CSO releases after federal environmental regulators hinted that CSO discharges violated the Clean Water Act (CWA). Three months later the EPA made these musings official when it issued its “National Combined Sewer Overflow Control Strategy.” These federal guidelines reaffirmed that CSOs are point-source discharges subject to National Pollutant Discharge Elimination System (NPDES) permit requirements under the CWA. In fact, the permitting process was the centerpiece of the CWA. It essentially sought to limit specific pollutants that were being discharged from point-source (specific municipal systems and industrial facilities and agricultural sites) as opposed to older water quality standards that tried to maintain the ambient characteristics of the stream. Specifically, the EPA attempted to ensure that CSOs occurred only during wet weather and that those discharge points be identified and brought into compliance with CWA standards for fishable and swimmable rivers and streams. Furthermore, it charged states with developing state-wide permitting strategies to reduce, eliminate, or control CSOs. The Georgia General Assembly then responded the following year with a series of laws to regulate CSOs. These acts cumulatively prohibited the operation of CSOs in the state for municipalities that had not obtained a permit from EPD by March 1991 and further stipulated that the

¹⁰ J.C. DeVivo et al. “Phosphate Detergent Use and Mandated Upgrades at Two Waste-Water Treatment Facilities on Water Quality, Metropolitan Atlanta, Georgia, 1988-93,” in *Proceedings of the 1995 Georgia Water Resources Conference in Athens, Georgia, 11-12 April 1995*, by the Carl Vinson Institute of Government, University of Georgia.) 51.

EPD could prescribe conditions on the permit for “the achievement of effluent limitations in the shortest reasonable period of time.” In addition, the state required all CSO owners and operators to submit detailed plans to the EPD for the elimination or treatment of CSOs in order to ensure that all discharges complied with state and federal water quality standards by December 31, 1993.¹¹

With seemingly little wiggle room, city officials in Atlanta hunkered down with consulting engineers and the Bureau of Pollution Control (BPC) staff between late 1989 and mid-1990 to produce plans for CSO abatement and phosphorous control. With regard to the former, the BPC floated a \$20 million proposal to build “mini treatment” plants at five of the city’s most troublesome overflow points: the North Avenue and Greensferry CSOs on Proctor Creek as well the relief structures located on Tanyard, Utoy, and Clear Creeks. According to the BPC staff, these small treatment facilities would reduce pollution by providing primary screening to remove toilet paper, trash, and other visible signs of sewage from the water. In addition, disinfectants such as chlorine could then be added to kill bacteria, viruses and other microbes that harm fish and cause human disease.¹²

The EPD accepted the broad contours of this proposal in 1990 but urged the city to submit a detailed course of action that would include sufficient self-monitoring

¹¹ “City Told to Clean Combined Sewerage Overflows” *AJC*, 24 June 1989; EPA, *Combined Sewer Overflow: Guidelines for Monitoring and Modeling* (Washington D.C.: Office of Water, Environmental Protection Division, 1999), 2; James Kundell, “Water Related Actions of the Georgia General Assembly, in *Proceedings of the 1999 Georgia Water Resources Conference in Athens, Georgia, 20-22 March 1999* (by the Carl Vinson Institute of Government, University of Georgia): 1; Melosi, *The Sanitary City*, 388.

¹² “City Told to Clean Combined Sewerage Overflows Dump into Creeks, Park, *AJC*, 24 June, 1989; “Atlanta’s CSOs Plan is Only a Drop in a Polluted Bucket,” *AJC*, 28 June 1989; “The City’s Neglected Infrastructure,” *AJC*, 4 July 1989. The operations of the Custer, McDaniel, and Intrenchment Creek CSOs were considered to be adequate due to the storage and treatment provided by the Three Rivers Water Quality Management Program, see BPC, *Three Rivers Report #3*.

technologies. When detailed plans failed to materialize by early 1991, state environmental regulators grew increasingly impatient with the city's slow response. Aware that the EPA was looking over the state's shoulder, the EPD slapped the City of Atlanta with an administrative order in April 1991 that required the city to initiate construction on CSO projects no later than October 1, 1992 and to be in compliance with water quality standards by December 31, 1993. Failure to meet these deadlines, the state agency promised, would result in sanctions such as fines and sewer hookup moratoriums. This threat was further strengthened by a new state law that increased the civil penalty for violations from a maximum \$25,000 per day to \$50,000 for a first violation with subsequent violations over a twelve month period being subject to a \$100,000 per day fine. Worse still, financial experts additionally warned that failure to comply with state directives on pollution control could lower the city's bond rating and thereby cause the city to pay higher interest rates on debt and lose the confidence of investors, all of which would potentially jeopardize Atlanta's ability to prepare for the 1996 Olympic Games.¹³

Atlanta pollution control officials objected to the state's timetable for the phosphorous limit compliance almost immediately. According to preliminary investigations by the consulting engineering firm of Brown and Caldwell, retrofitting Atlanta's WWTFs required a longer time horizon than that assumed by EPD regulators.

¹³ According the *Atlanta Journal-Constitution*, the EPA had been openly critical of EPD tolerance of Atlanta's water quality violations. For example, March 1990 audit by the EPA Inspector General's office concluded that the Atlanta regional EPA office "did not properly discharge its responsibility to regulate CSOs [combined sewage overflows] in accordance with the Clean Water Act." "Troubled Waters: The Strangling of the Chattahoochee," *AJC*, 26 June 1994; for state actions in response to EPA findings, see City of Atlanta, *The Mayor's Clean Water Advisory Panel: Final Report to the Honorable Shirley Franklin, Mayor of the City of Atlanta* (October 15, 2002), Background and History of Atlanta's Sewers, passim (hereafter cited as *Clean Water Final Report*); James Kundell, "Water Related Actions of the Georgia General Assembly," 1; "City Clout in Jeopardy," *AJC*, 9 July 1989; "Raw Sewage Still Flowing as Plans Languish," *AJC*, 24 November 1991.

Their plan, which was essentially a revised proposal of that ARC's Wastewater Planning Task Force had developed two years earlier, called for the introduction of phosphorous removal equipment to the R.M. Clayton, Utoy Creek, and South River WWTFs. It also called for: 1) the Utoy Creek plant to be expanded to accommodate up to 200 MGD; 2) the R.M. Clayton facility treatment allotment to be reduced from 120 MGD to 66 MGD; and 3) the city to bore an 8-mile long combined sewage and water tunnel to convey the wastewater from the Clayton plant to Utoy Creek for treatment and discharge.¹⁴

With the consultant's report in hand, Atlanta officials asked the state in June 1990 for relief from "unreasonable limits" on its sewage discharges to allow "more time to evaluate the impact of standards being imposed." The DNR retorted several weeks later that not only was it "reasonable and practical" for Atlanta to comply with the 0.75 mg/l phosphorus discharge limitation by December 31, 1991 but that federal pollution control officials may even impose more stringent measures than those which were in place. Despite this unequivocal declaration from the regulatory authorities, the Georgia General Assembly authorized the EPD to grant program extensions in August 1990, when the City of Atlanta produced the finalized design plans that indicated that it could not realize the state's phosphorous reduction levels until at least 1995. Armed with this legislative club, city officials negotiated a "Consent Order" with the EPD in April 1991 allowing for a delay in meeting the 0.75 mg/L limit until July 4, 1996. In return, the EPD extracted a

¹⁴ In keeping with the metropolitan outlook of the agency's mandate, the ARC's proposal recommended that a second large diameter, deep rock tunnel be constructed from the R.M. Clayton plant to the northwest quadrant of Gwinnett County along a route roughly parallel to I-85 where it could also serve the county's Big Creek, Crooked Creek, and John's Creek plants. In addition, the ARC's proposal called for upgrades at the Utoy Plant for the allowance of 184 MGD. ARC Wastewater Planning Task Force, *Long Range Metropolitan Atlanta Regional Wastewater Plan* (Atlanta: July 1988), Section IV: System Alternatives; Brown and Caldwell, *Comprehensive Phosphorous Control Plan-City of Atlanta, Bureau of Pollution Control* (August 1990)1-7.

requirement that the city meet a more restrictive limit of 0.65 mg/L average phosphorous concentrations, to be accomplished by February 1997.¹⁵

The question remains as to why the City of Atlanta waited to take action on these remedial measures until after federal and state regulators stepped up their pressure. Evidence shows that the city's pollution control officials did not simply generate CSO and phosphorous abatement plans in response to state mandates but had worked out, at least conceptually, some program of action before the state pulled the trigger. Indeed, the BPC had identified the problems associated with CSOs since the 1970s and had even developed its CSO abatement but had failed to move forward in the absence of regulatory pressure. Similarly, the Atlanta Regional Commission produced a proposed solution for phosphorous reduction a full year before the state established its guidelines. Clearly, Atlanta officials could not claim that they were blindsided by the state's mandates.

The lack of funding and political resolve is unquestionably at the root of the city's delay. As explained, federal grants-in-aid programs developed during the 1970s essentially pre-dated the more focused concern on phosphorous control and did not include funding for sewage system problems. In any event, once federal assistance was phased out during the 1980s, city leaders were left with the responsibility of raising rates, which they were loath to do. Sewers, in short, are not sexy and hence offer little return for political capital spent. To be sure, there was little public clamor for these issues and there is evidence to suggest that Atlanta's citizens, after accepting the forty-four percent hike in 1984, were reluctant to accept larger increases. In fact, the failure of a general obligation

¹⁵ "EPA: Tougher Limits Needed to Save Lake," *AJC*, 5 June 1990; ¹⁵ Upper Chattahoochee Riverkeeper Fund Inc., 953 F. Supp. 1541 (N.D.Ga. 12/11/1996), [hereafter cited as Hull decision]; Brown and Caldwell, *Comprehensive Phosphorous Control Plan*, 1-7; J.C. DeVivo et al. "Phosphate Detergent Use and Mandated Upgrades," 54.

bond issue in 1988 to upgrade city schools, fire and police facilities and repair or replace much of the city's failing infrastructure was widely interpreted as evidence of poor organizing and outreach on the part of City Hall, further fueling taxpayer distrust and discontent.¹⁶

Another issue to consider with regard to pollution abatement delays is that changes in treatment standards may have discouraged the adoption of capital intensive technologies. As previously explained, the CWA's zero-discharge goals were met with increased skepticism during the 1980s. In addition, the Act's emphasis on technology-based standards for pollution control suggested to some water experts that the EPA was focusing too heavily on single technical solutions at the expense of other more comprehensive approaches. Indecision on how to treat non-point sources of pollution that mixed with municipal discharges only complicated the matter. Seen in this context, it is somewhat understandable that the City of Atlanta might wait until firm regulations and deadlines were established. In any event, state regulations and the BPC showed their willingness to trade time for more stringent limitations on phosphorous discharges. But the city's strategy of deferred investment and action could not be maintained forever.¹⁷

DON'T FLUSH ON ME:
WATER POLLUTION, POLICY, AND PROTEST IN THE CITY OF ATLANTA,
1990-1998.

By April 1991 the City of Atlanta had presented the EPD with acceptable plans for both CSO abatement and phosphorous limitations. The city's CSO plan called for spending roughly \$90 million to build mini-sewage treatment plants in five CSO

¹⁶ "Lack of Information, Accountability Killed Bond Referendum," *AJC*, 6 June, 1988.

¹⁷ Melosi, *The Sanitary City*, 291-2.

locations to remove solids, such as toilet paper and trash, from discharges, and add chlorine to kill viruses and bacteria. The treated wastewater would then be allowed to flow into the city creeks at supposedly reduced pollution levels. The phosphorous control plan, in contrast, called for the upgrading of the Utoy Creek WTTTF to receive wastes via an 8-mile long underground tunnel.

Work began on the CSO facilities in the summer of 1992. Then, events took a different turn, as grassroots activism on the part of neighborhood and public interest groups derailed the city's attempts to carry out the remainder of its pollution control proposals. The city's CSO "mini treatment" proposal met with immediate uncertainty from the affected communities. Noting that the DNR's order did not specifically call for CSO elimination, environmental advocates argued that the city's plan failed to remove heavy metals, oil and grease and many other potentially hazardous substances like lead, arsenic, chromium, and cadmium that appeared in high levels from city discharges. The activists claimed, moreover, that substantial reliance on chlorine posed an environmental threat, and perhaps even a public safety hazard, to the surrounding neighborhoods because it would react with other chemicals in the water and produce cancer-causing substances. As a result, environmentalists charged that the city was simply applying a cheap "band aid" to its own sewer problems. It would be far preferable, they suggested, for Atlanta to either attempt CSO separation as in Minneapolis or follow Chicago's lead, where plans were underway to build huge underground storage tunnels to hold excess

wastewater until dry weather returns and the dirty water can be pumped back for treatment.¹⁸

W. Marshall Sanders, an attorney with Research Atlanta, a public policy research organization out of Georgia State University, argues that the ensuing protests over pollution control in Atlanta followed a pattern that is recognizable in most successful examples of neighborhood activism. First, a small group of citizens—usually those living near a proposed facility site—are awakened to the potential harmful impacts of the development in its community. These perceived threats could range from relatively minor nuisances like traffic and noise to more profound, long-term threats to public health and safety. Next, these concerned citizens become convinced that the project must be halted, moved, or significantly altered. Local officials then take steps to reassure the public about the safety and necessity of the project. These attempts are likely to be met with skepticism, at which point opponents begin to organize and seek political support against the project. Proponents may then respond by marginalizing or appeasing the opposition, but as tensions mount and positions become more entrenched, policy gridlock may follow until a resolution is achieved.¹⁹

For some activists like Preston Mason, CSOs were inseparable from the phosphorous control problems. Mason, a landscape contractor, was environmental chair of the Atlanta Planning Advisory Board, a citizen group that was drawn from every

¹⁸ “City Told to Clean Combined Sewerage Overflows,” *AJC*, 24 June 1989; “Piedmont Park’s South End to Get Sewer,” *AJC*, 16 July 1991; “City Flushing \$107 Down Drain?,” *AJC*, 19 April 1993.

¹⁹ W. Marshall Sanders, “Policy and Protest,” 19; General treatments of this pattern of grassroots environmental activism include Daniel J. Brion, *Essential Industry and the NIMBY Phenomenon* (New York: Quorum Books, 1991); Charles Pillar, *The Fail-Safe Society* (Berkeley: University of California Press, 1991); Daniel Manzanian and David Morell, “The NIMBY Syndrome: Facility Siting and the Failure of Democratic Discourse,” in Vig and Kraft, *Environmental Policy Studies Journal* 20(1993), 740-491.

district of the city that advises local officials on goals and objectives relative to Atlanta's Comprehensive Development Plans. He was convinced that sewer separation was the answer for all of Atlanta's sewer ills and he argued, for example, that tunneling and enlargement of the Utoy Creek WWTF would "not be necessary if we stop mixing phosphorous-bearing sewer waste with millions of gallons of storm water. Rather than spend \$360 million to patch expensive new systems onto an obsolete combined system, we need to look at the cost of modernizing by separating wastewater pipes from sewage pipes. After all, its storm water from old Atlanta (i.e., the 330-mile downtown area that retained combined sewers) that's overloading the entire system and causing both problems."²⁰

Atlanta mayor Maynard Jackson and BPC staff countered this opposition by adamantly defending the \$100 million treatment strategy as the most cost-effective and environmentally sound solution to CSO problems. "This is the solution to our problem," said George Barnes, the director of the city's Bureau of Pollution Control. "These facilities will allow our city to meet and comply with current standards and regulations, and our permit. Unless there's changes in the water quality laws, the city will not need to do anything else about this problem." City engineers deemed that sewer separation would require the construction of two 48-foot diameter deep rock tunnels and the digging up of streets to lay miles of new pipe. The BPC further suggested that costs could run as high as \$1 billion and add an average of \$105 per month to household water bills. Mayor Jackson, brandishing the BPC's 60 page report, warned that this cost represented an amount so great that it would produce a "widespread, adverse economic and social impact on the residents of the city." Small-scale CSO facilities, Jackson and the BPC

²⁰ "Sewer Upgrade Plan is Money Down the Drain," *AJC*, 21 March 1993.

further contended, would screen garbage and disinfect pollution-laden runoff that otherwise would be discharged into creeks under separated sewers and would also better aid the city in meeting the state's deadline without incurring penalties.²¹

For Atlanta planners, engineers, and city officials, the benefits of their phosphorous plan were equally manifest. First, with treatment capacity of 120 MGD, the R.M. Clayton plant was considered overburdened and, due to site limitations, expansions to the plant were considered impractical. Second, a constructed tunnel would integrate the entire sewage treatments system and allow BPC officials to seek a single operating permit from the EPD that could be based on an "average" discharge amount from the three plants. Third, the tunnel would serve as a "flow equalization" device that could temporarily store partially treated effluent and thereby ensure that the system would not be overwhelmed during heavy storms.²²

Residents near the Utoy Creek and Clear Creek CSOs remained apprehensive. The Utoy Creek CSO, located in southwestern Atlanta, had been the site of over fifty overflow events a year where millions of gallons of untreated sewage and storm water was released into a section of the creek that traversed John A. White Park. After complaining for years about the unsanitary and unsightly conditions created by this relief valve, a coalition of roughly seventy people from the area organized in 1992 and called for alternative solutions to the city's CSO treatment plan.

²¹ "Council Backs Costly Plan Neighborhood Opposed," *AJC*, 16 July 1991; "High Price of Cleaning Up Sewers," *AJC*, 7 March 1992; "Troubled Waters: The Strangling of the Chattahoochee," *AJC*, 26 June 1994.

²² ARC Wastewater Planning Task Force, *Long Range Plan*, Section IV; Brown and Caldwell, *Comprehensive Phosphorous Control Plan*, 1-7.

The resistance to the Utoy Creek plant was also aided by a similar controversy that had erupted over the proposed location for the Clear Creek CSO facility in Midtown Atlanta. Whereas public health and environmental concerns had driven the Utoy Creek protesters to explore sewer separation or other options, opposition to the Clear Creek facility stemmed largely from aesthetic sensibilities. The BPC's original 1990 design proposal called for construction of a 22-foot-tall CSO structure along the Tenth Street meadow at the south end of Piedmont Park across from Grady High School. This \$30 million plan also suggested that the sewer system could be crowned with an office complex and ornamented by two waterfalls, extensive landscaping, bridges and a new Lake Georgia.²³

The private, non-profit Piedmont Park Conservancy, which planned its own \$15 million facelift for the city's premier green space, objected that the CSO structure would be an eyesore and that covering it with additional office space would further detract from the view. Protests continued as more neighborhood organizations from the midtown area joined the crusade. By 1993, neighborhood associations amalgamated under the Neighborhood Planning Unit (NPU) and environmental groups like Sewage Treatment Out of the Park (STOP) joined in to insist that the CSO facility should be removed from the park and re-located to a less conspicuous but adjacent area. "Sewage treatment has no place in a public park," said Bill Eisenhauer, a STOP founding member. "Piedmont already is grossly overused and under-maintained," he added before warning that his

²³ "City Feeling Pressure on State-Ordered Sewer Facility," *AJC*, 19 June 1991.

organization was ready to sue the city for clean water violations if heavy metal treatment was not included in the CSO clean-up.²⁴

Although the activists in STOP did not file suit against the city, Eisenhower's objections indicate the rift that was emerging among those concerned with local water quality. The city, as well as the state and federal agencies, wanted a quick but sufficient end to the city's pollution. City officials, of course, wanted to reduce pollution any way possible, at the lowest cost. EPA officials stated that they approved the city's CSO treatment concept, but they didn't dictate the specific technology the city should use. Likewise, the EPD approved the permits but stated that the responsibility for meeting the water quality standard ultimately rested with the City of Atlanta. For some activists like Eisenhower, a mechanical engineer and one-time director of Georgia Tech's Research Institute, the design of the CSO facilities would allow the continued discharge of untreated waste, provide only partial treatment of some biological pollutants, and not address other important pollutants such as ammonia, phosphorus, or heavy metals. For these activists, the city's mini-treatment facilities were a cheap stop-gap measure that was aimed at meeting an arbitrary state deadline. It would better, they believed, for the city to spend the money and time to get it right the first time. If the plans failed, activists would be ready to take court action if the state did not enforce federal laws.²⁵

The presence of an organized, determined, and vocal CSO opposition was too much for the City Council to ignore. Recent events outside the council chambers no doubt imparted upon the members the need for greater sensitivity to community anxieties

²⁴“Raw Sewage Still Flowing as Plans Languish,” *AJC*, 24 November 1991; “High Price of Cleaning Up Sewers,” *AJC*, 7 March 1992.

²⁵ Michael Wall, “\$1.9 Billion Worth of Tunnel Vision,” *Creative Loafing*, 18 April 2001. <http://clatl.com/atlanta/19-billion-worth-of-tunnel-vision/Content?oid=1230575> (accessed June 19, 2011).

over the fragility of the century-old sewer system. On June 14, the Orme Street combined sewer created an enormous sinkhole that swallowed three vehicles and drowned hotel workers Victoria Vaynshetyn and Oscar Cano. Although Mayor Jackson continued to back the BPC plan on the grounds that separation would be too costly and time-consuming, the City Council proved more receptive to the protesters' passionate complaints. Less than two weeks after the tragedy, Utoy Creek citizens brought out their own arsenal—a well-researched, clear presentation with impressive maps, charts, cost-analysis plans, and a box of petitions signed by thousands of neighborhood residents—to argue against the city's CSO plan for their area. The council responded by not only stifling the Utoy Creek mini-treatment plans but also by authorizing the sale of approximately \$270 million in taxpayer guaranteed bonds to pay for sewer improvements that included up to \$50 million for whatever system council members should choose for Utoy Creek. The City Council further demonstrated its resolve when it voted overwhelmingly in September 1993 to override Mayor Jackson's veto of the council's non-binding June resolution.²⁶

In September 1993, both the mayor and city council signed off on a three-year, \$65 million Clear Creek project that was lauded as a “solid collaborative effort between the city and the neighborhoods.” Under the plan, the city agreed to purchase a 12-acre site at the north end of the park where the 26,000 square foot overflow treatment plant was to be constructed in front of a 10-acre storm water retention area. At the entrance of the park, Clear Creek was to be restored with boulders and trees placed in the stream's

²⁶ Susan Curtis, “City Sewage Problem Keeps Spreading,” *The Atlanta Business Chronicle*, 18-24 June 1993, A3; “People Power: Residents Win Battle with City Hall,” *AJC*, 20 May 1993; “Council Oks Bond Sale for Sewer Facilities,” *AJC*, 22 June 1993; “Mayor Should Accept Sewer Verdict,” *AJC*, 14 July 1993; “Jackson's Sewage Separation Veto is Overturned,” *AJC*, 8 September 1993.

center. Its shorelines were also to be carved by bulldozers to make it appear “more natural.” During heavy rainstorms, the brew of combined sewage and runoff was to flow through a culvert underneath Piedmont Park to the plant where the wastewater would be screened and sprayed. The treated sewage would then be discharged into the creek, where floodwater was to be prevented by a dam that could be closed to retain excess water in the 10-acre overflow area. Lastly, the entire 22-acre addition was to be landscaped and connected by paths to the rest of the park.²⁷

Commenting on the council’s decision to back the Utoy Creek activists, councilman and 1993 mayoral hopeful Bill Campbell stated, “The community has spent considerable time and energy” and “their technical expertise has overwhelmed our own expertise. That raises questions in itself.” Councilwoman Mary Davis added, “I was truly impressed. This group really did its homework.” She likewise gushed over the prospect of a relocated Clear Creek CSO plant: “It will be a beautiful addition to Piedmont Park and also fix a problem that had waited too long to be addressed,” Ms. Davis said. “I think it’s historic, and a model for citizen participation.”²⁸

This kind of “civic participation” and ability of grassroots organizers to challenge the expertise of the city’s pollution control officials is symptomatic of the emergence of an invigorated environmental perspective and relative decline in expert authority that occurred in the last four decades of the twentieth century. As historian Brian Balogh explains, modern environmentalism was an ecology-based, holistic outlook “that epitomized the assault on specialized approaches” that were so crucial to the nation’s

²⁷ “Panel: Locate Sewage Plant Next to Park,” *AJC*, 28 September 1993; “Construction to Start Next Month on Park Sewer Project,” *AJC*, 26 May 1994.

²⁸ “People Power: Residents Win Battle with City Hall,” *AJC*, 20 May 1993; “Council Oks Bond Sale for Sewer Facilities,” *AJC*, 22 June 1993 “Panel: Locate Sewage Plant Next to Park,” *AJC*, 28 September 1993.

postwar technological, economic, and political development. It additionally engendered pointed, localized critiques of increasingly specialized and professionalized plans and policies that “might lead to progress in one area only to create greater harm somewhere else.”²⁹

Atlanta’s neighborhood activists demonstrated that environmental policymakers were vulnerable to such disenchantment with expertise. CSO proponents argued that their plan was the most environmentally sound technique for solving the city’s dilemma. “This program has been carefully developed by professionals who have done environmental work for their whole careers,” said BPC director George D. Barnes. But as Bill Campbell’s comment indicates, the council’s lack of confidence in the city’s plan stemmed from the CSO opponents’ well-researched assault on the soundness of the BPC’s technical and professional expertise. “We were constantly hearing a one-sided argument,” recalled Naeema Gilyard, a Utoy Creek resident and health administrator at Morehouse Medical School. “They kept saying ‘we have to get on with it and build the facility,’ . . . “but we felt it unfair to not explore the alternatives.”³⁰

Sociologist Robert D. Bullard argues that many poor and minority residents have viewed the mainstream environmentalism that emerged from the 1960s as essentially an “elitist” movement that was overly concerned with leisure, recreation, wilderness, and wildlife preservation at the expense of social justice. Although there is no doubt that some collaboration existed among CSO protesters in Utoy Creek and Midtown Atlanta, and that quality of life, however that is defined, mattered to both groups, the stated

²⁹ Brian Balogh, *Chain Reaction: Expert Debate and Public Participation in American Commercial Nuclear Power, 1945-1975* (Cambridge: Cambridge University Press, 1991), 258-260.

³⁰ “City Flushing \$107 Down Drain?,” *AJC*, 19 April 1993 “People Power: Residents Win Battle with City Hall,” *AJC*, 20 May 1993.

concerns from each campaign add some weight to Bullard's observation. For Utoy Creek residents, quality of life could be translated to mean public health, or as Ms. Gilyard stated, "This concerns our lives, and it concerns our neighborhood, where we live." "We didn't know what we wanted. We just knew we didn't want a facility like that in our backyard," said Armide W. Price, a registered nurse who helped organize the Utoy basin group. In contrast, aesthetics and recreation was clearly an important factor in resolving the Piedmont Park hullabaloo. "We're pleased with the plans, but the neighborhoods will continue to monitor the details of the landscaping," said Bob Enholm, chair of NPU-E. "We want to know about the kinds of trees the city plans to put in, the width of the new sidewalks, the kinds of pavers used and so on. In those details will be found the day-to-day impact of this plan to the neighborhood."³¹

Bullard, moreover, argues that "few environmentalists realized the sociological implications of the not-in-my-backyard (NIMBY) phenomenon." NIMBYism generally refers to community opposition to the construction of public or private facilities that ostensibly serve some vital, or at least valuable, public purpose but are perceived to be harmful to persons or property in a residential neighborhood. These locally unwanted land uses (LULUs) range from tall buildings, homeless shelters, and prisons to processing facilities, landfills and hazardous waste sites. Environmental justice activists claim, more importantly, that environmentally burdensome LULUs have been disproportionately placed in poor, powerless, minority communities rather in more affluent areas and that

³¹ Robert D. Bullard, *Dumping in Dixie: Race, Class, and Environmental Quality* (Boulder, CO: Westview Press, 1990), 9; "People Power: Residents Win Battle with City Hall," *AJC*, 20 May 1993; "Construction to Start Next Month on Park Sewer Project," *AJC*, 26 May 1994.

public and industrial policies typically provide benefits for whites while shifting the costs or negative externalities to blacks.³²

Nowhere in the Atlanta sewage saga was this issue of race and class more discussed than in the city's phosphorous control plan. Recall that the city's plan entailed boring a tunnel to link the R.M. Clayton plant to an enlarged Utoy Creek WWTF. Some activists, such as Preston Mason, the sewer separation advocate who lived 400 yards from where the tunnel would be constructed near the Clayton facility, opposed the project for fear that "the tunnel will simply become an underground storage lake that could send methane and other pollutants up through cracks in the earth." Others, including Professor Bullard, who teaches at Clark Atlanta University, denounced the city's \$250 million plan as a clear case of environmental racism. "When one particular part of society is allowed to transport its waste to another, it's a form of inequity," said Bullard. "It's time for each community to bear the burden of treating waste, since all communities produce waste. Southeast and southwest Atlanta have already borne their share."³³

The charges of environmental racism stirred a great deal of debate. According to U.S Census figures cited by the *Atlanta Journal-Constitution*, the Utoy tract was 97 percent black and fell slightly below Fulton County's overall levels of education, median household income and home values. But the area also had a lower poverty rate than Fulton County, which led the paper to conclude that "the numbers hardly describe an impoverished community." Bullard responded that this was a misapprehension of the

³² Bullard, *Dumping in Dixie*, 4, 97-99; Marshall, "Policy and Protest," 19; Brion, *Essential Industry and the NIMBY Phenomenon*, xi.

³³ "Sewer Upgrade Plan is Money Down the Drain," *AJC*, 21 March 1993; "Dirty Water: Can Atlanta Come Clean? Proposed Solutions Spur Cries of Racism," *AJC* 10 September 1995.

logic of the accusations: “race, not income or education, determines racism.” Fulton County Commissioner Emma Darnell took it a step further, insisting that the R.M. Clayton tract, although predominantly white, is also the target of environmental racism. The Clayton census tract was 71 percent white and above the county levels in education, median household income, per capita income and home values. Clayton area residents noted that the plant straddles two census tracts - theirs and one that is predominantly black. It was the majority-black tract, they argued, that was attracting the polluting industries. "If you understand what racism is, this is obviously a case of racism," Darnell said. "People are not willing to accept more northern suburbs dumping on south Atlanta."³⁴

Atlanta officials said that they understood some of the neighbors' concerns, but they also disputed the charges of racism. “The communities around Utoy Creek are minority, but they are not poor," said Atlanta Public Works Commissioner Douglas Hooker, who is black. "To call [the tunnel] environmental racism is unfair." Michael Lynch, a member of Mayor Bill Campbell’s phosphorus reduction study panel, who is white and lived a mile from the Clayton plant, said panel members recommended the tunnel because they thought it was best for the city."³⁵

As with the CSO controversies, the barrage of protests convinced city officials that they would have to dispense with their original plan in favor of an alternative more amenable to local constituents. In May 1995, Mayor Bill Campbell, bowing to the activists’ claims that the plan was environmentally unsound and would adversely impact

³⁴ Ibid.

³⁵ Ibid.

mostly poor, minority communities, said the \$250 million tunnel would not be built. More than five years after the proposal of the original program, the City Council effectively put the nail in the coffin with an ordinance that endorsed a new non-diversion phosphorous control plan that included the enlargement of and modifications to the R.M. Clayton plant. Meanwhile, EPD Director Harold Reheis, frustrated by the city's delay, notified Mayor Campbell in September that the state would impose an administrative order on Atlanta for failing to execute the 1991 consent order. Fearing fines of up to \$100,000 per month and another threat of credit downgrading for failure to act, the City of Atlanta entered with the EPD into a second consent agreement on October 26, 1995 that retained the earlier phosphorous limits and deadlines but deleted the tunnel option and replaced it with plans for Clayton WWTF enhancements.³⁶

Many Atlantans expressed dismay and anger over the non-stop protests and the city's apparent foot-dragging to resolve the sewer troubles. One such person was local writer Dick Williams. In a blistering editorial published in the *AJC*, Williams expressed his disbelief that city leaders, who were paying \$9000 in daily fines for CSO violations and who had already spent \$20 million in design plans and preparations for the tunnel, would choose to shelve that \$250 million program for the \$400 million Clayton expansion plan. This would lead to a \$15 or 77 percent increase in water bills, only two years after a 35 percent rate hike. Williams also asserted that Atlantans, amidst their internecine bickering, had obviously forgotten that they were not the only users of either the Chattahoochee River or the WTTFs located on it. DeKalb County, he noted, had

³⁶ Hull decision; Christopher McEntee, "Bonds May be Needed to Fix Atlanta's Water Problems," *The Bond Buyer* 5 July 1991, A1; "Dirty Water: Can Atlanta Come Clean? Distress Flows Downstream," *AJC*, 10 September 1995.

previously issued \$90 million in bonds to contribute to improvements to the metropolitan sewer system but were unsure how or where the money would be spent.

Then Williams really cut loose:

What we have here is a catch phrase – ‘environmental racism’ - being used by residents of a relatively poor neighborhood to stop an unobtrusive tunnel deep underground, jack up sewer rates and maybe even property taxes and dictate terms to residents of three other jurisdictions. On Atlanta's overpopulated council of 18 members, representatives of a few districts have unwarranted power against the interests of the city as a whole . . . The next time someone rants about ‘environmental racism,’ just ask them what a responsible government could do with \$9,000 a day? Fix the leaning towers of Techwood? Put every unemployed teenager in town on a summer job? Send City Council on a permanent vacation? Move everyone near Utoy Creek to a pristine mountain stream? Instead, the money - and probably millions more - is being flushed from taxpayers' homes straight down the river.³⁷

The debates concerning pollution control strategies and technologies offer some insights into Atlanta's complex racial and class dynamics as well the role of technocrats in late twentieth century America. As Stanley K. Schultz and Clay McShane argue, urban infrastructure demands intricate planning, sophisticated technical solutions, and tremendous amounts of capital, and because of this, city leaders and residents alike have traditionally relied on experienced engineers and trained municipal administrators to define and fulfill system goals. The community opposition to the city's pollution control programs demonstrates, however, that Atlanta's residents were not content to allow engineers and other “experts” to make all the public policy decisions. In a post-Vietnam,

³⁷ “Sewer Pact Pits County Against City,” *AJC*, 24 July 1995; “One Can Hear a Giant Flushing Sound,” *AJC*, 29 July 1995.

environmentally conscious world city officials were forced to become more inclusive when deciding public policy issues.³⁸

This appeal to inclusiveness is also a function of what scholar Robert Kagan has labeled adversarial legalism. Arising from the relative weakness of bureaucratic alternatives for achieving policy goals, this lawyer-dominated litigation thrives in exceptionally fragmented governing structures like that of the United States and encourages justice claims where “law is treated as malleable, open to parties novel legal arguments and pleas of extenuating circumstances.” Although adversarial legalism provides access to formerly marginalized groups, it also results in high financial costs, time delays, uncertainty, and the erosion of trust and good will. And with regard to economic development and environmental protection, Kagan argues that adversarial legalism's most important effect has been to delay or kill worthy development projects.³⁹

Although Atlanta’s environmental activists won a seat at the planning table, the net environmental and economic effect of community protest has been mixed. On the one hand, the city was forced to think more innovatively about alternative wastewater solutions to address the longstanding and legitimate concerns of the neighborhoods surrounding the facilities. On the other hand, opposition led to delays which further exposed the city to fines and moratoria. Furthermore, the near-paralysis in public decision

³⁸ Stanley K. Schultz and Clay McShane, “To Engineer the Metropolis: Sewers, Sanitation, and City Planning in Late-Nineteenth-Century America” *The Journal of American History*. 65:2 (Sept., 1978): 389-411.

³⁹ Robert A. Kagan, “Adversarial Legalism and American Government,” *Journal of Policy Analysis and Management* 10, No. 3 (Summer, 1991): 369-406.

making further eroded public trust in the ability of Atlanta's leaders to deliver credible pollution solutions.

At times the controversy even became personal. BPC director George Barnes, who became a lightning rod for critics after he helped push through the original proposal for "mini treatment" plants, quit the BPC on January 9, 1995 over intense scrutiny and the city's decision to separate sewers in Utoy Creek. In his resignation letter, he wrote that the Utoy Creek separation solution is "environmentally damaging and a financial mistake. From a professional and ethical standpoint I am not willing to be responsible for such projects."⁴⁰

THE NOOSE TIGHTENS: LITIGATION AND NEGOTIATED POLLUTION CONTROL SETTLEMENTS, 1995-1999.

Dick Williams was not the only one fed up with Atlanta's slow response to meeting its water quality obligations. In the summer of 1995, a coalition of Atlanta activists and downstream communities filed notice of their intent to sue the city for its laxity in keeping the Chattahoochee River free of pollution. "It's unfortunate that the situation has come to this," said Atlanta attorney David Pope, "but the city dragged its feet too long. Something needs to be done." "If state and federal agencies can't make [the city] move, then perhaps a federal judge will," said Sally Bethea of the Upper Chattahoochee Riverkeeper Fund, a non-profit organization that organized the impending suit.⁴¹

⁴⁰ "City Official Quits Environmental Job," *AJC*, 14 January 1995.

⁴¹ "River Pollution Suit to be Filed," *AJC*, 29, July 1995; "Dirty Water: Can Atlanta Come Clean? Distress Flows Downstream," *AJC*, 10 September 1995.

Organized by Rutherford and Laura Turner Seydel in 1994 and modeled after New York's Hudson RiverKeeper, the Upper Chattahoochee RiverKeeper (UCR) is an environmental advocacy organization with the stated mission of advocating for and protecting the Chattahoochee River, its tributaries, and watershed. Beginning with a small professional staff and several volunteers, the UCR quickly acquired momentum when it received funding from the CNN magnate Ted Turner's private foundation (the Turner Foundation) to hire a full-time legal staff. Then, as promised, the UCR, along with eleven other plaintiffs, filed suit against the City of Atlanta in U.S. District Court in October 1995.⁴²

"The goal of this lawsuit is to force the city of Atlanta to properly address its sewage treatment problems," said David Pope, an Atlanta lawyer who represented the plaintiffs. Specifically, the group alleged that the city failed to operate and maintain discharge standards for three on-line CSO facilities on Tanyard and Proctor Creeks, which they claimed entitled them to seek federal redress under the citizen-suit provisions of the CWA. In 1997, after the UCR asked for their expertise in negotiating a post-suit settlement, the EPA and EPD joined the litigation to seek injunctive relief for NPDES permit violations resulting from the discharges of the city's four remaining CSOs and three WWTFs.⁴³

⁴²"Founder's Statement," Upper Chattahoochee RiverKeeper. <http://www.chattahoochee.org/founders-statement.php> (accessed September 18, 2011).

⁴³ CSO Consent Decree (September 24, 1998), 4-5, 8; "Suit Filed to Halt Pollution," *AJC*, 11 October 1995. The Upper Chattahoochee Riverkeeper also filed a suit on the same day alleging, among other things, that both the 1991 and 1995 consent agreements signed by the city and the EPD violated the July 1, 1996 deadline established by Georgia's initial 1991 phosphorous reduction statute. This lawsuit was dismissed on December 11, 1996, however, when U.S. District Judge Frank Hull ruled that "the purpose of the statute is to provide that a consent order takes precedence over the statute if a consent order is in place. This is

Pope stated that it was not the plaintiff's intention to advocate one solution over another. "Our goal," he maintained, "is to clean up the Chattahoochee River." Instead, the coalition's aim was to have the federal court: 1) order the city to provide whatever improvements are necessary to the WWTPs and the CSOs to ensure that proper treatment is given to the effluent at those locations, 2) assess penalties against Atlanta for its prior failure to comply with requirements of the CWA and to ensure the city's future compliance with the law, and 3) impose a moratorium on new sewer hookups if the city fails to take appropriate steps in a timely and responsible fashion.⁴⁴

Work continued despite the pending court decision. In 1996 the city spent \$7.3 million on sewer maintenance and \$7 million on sewer construction. BPC engineers additionally allotted \$161 million for the next five years to rebuild and upgrade twenty-two major sewer lines. By the time Mayor Campbell appointed "environmental czar" Larry Wallace as Barnes's successor in the spring of 1997, Atlanta had introduced enough modifications to its WWTFs to reduce their phosphorous discharges and prevent further EPD sanctions. Penalties had last occurred in February of that year when the city was fined \$750,000 and hit with a three-month ban on new sewer hookups after it exceeded the state-mandated 0.75 mg/L limit. In addition, although sewer separation in

particularly true here where a consent order was in place before the 1991 statute became effective on April 21, 1991." See Hull decision, 13; "Lawsuit Deal Sets Clean Up, Buffer Rules," *AJC*, 2 July 1998.

⁴⁴ CSO Consent Decree, 4-11. Although Byron Marshall, Atlanta's chief operating officer, indicated that the city would "try to avert a rancorous lawsuit," city attorneys nonetheless challenged the "citizen" plaintiffs authority to sue under the CWA. The federal court waived away this argument, though, stating that "the Clean Water Act grants to citizens the right to file suit in federal court to enforce the Act. 33 U.S.C. sect. 1365(a). Any citizen may sue on his own behalf any governmental instrumentality or agency to enforce an effluent standard or limitation or an order issued with respect to an effluent standard or limitation." Judge Thrash did, however, deny standing for Troup, Heard and Harris counties, the cities of West Point, LaGrange and Hogansville and others on the grounds that the counties and cities did not prove the pollution in the river was solely from Atlanta.. See *Upper Chattahoochee Riverkeeper Fund, Inc. v. City*, 986 F. Supp. 1406 (N.D.Ga.11/17/1997), 17, [hereafter cited as Thrash decision].

the Utoy basin was not expected to be completed until early 1998, the Clear Creek/Piedmont Park CSO plant became operational in October of 1997, an accomplishment that cut the city's \$20,000 per day fines in half.⁴⁵

Speaking of the execution of the Clear Creek CSO, Mayor Cambell said "This is a part of our efforts at rebuilding our old dilapidated wastewater system. It is cause for celebration, still with the recognition that there is a lot left to do." Indeed, a five-month EPA and EPD probe of Atlanta's sewer collection system confirmed in October 1997 that not only was there still much left to do but that enforcement action might be needed to get it done. The agencies found that the operators at the R.M. Clayton plant, which treated about 55 percent of the city's sewage, diverted millions of gallons of poorly treated sewage into the Chattahoochee River during rainy weather up to 50 times a year. In the first three months of 1997 alone, routine plant discharges violated federal and state water quality standards nearly 200 times. Atlanta's urban stream also had the highest levels of sewage pollution in the eight-state area overseen by the EPA's regional office. One main reason was that overburdened sewer pipes caused over half of the city's manholes to overflow in what engineers called "fecal fountains" at various points in the city, sending raw sewage into city streams and streets. Segments of city creeks were also strewn with garbage and polluted with high levels of coliform bacteria, indicators of disease-causing bacteria and viruses. And although Campbell blamed much of the problems on neglect by previous administrations, the federal and state agencies argued that management of sewer operations under the current mayor was "totally reactive" and driven almost entirely by customer complaints. The agencies further suggested that the

⁴⁵ "Pollution Compliance," *AJC*, 3 April 1997; "River in Peril," Part 1 of 4, *AJC*, 29 June 1997; "City Sewer Fines May Be Reduced," *AJC*, 5 September 1997.

BPC lacked sufficient support staff and resources to implement a “proactive sewage collection system” that “could maintain an aggressive program to prevent problems.”⁴⁶

One month later, U.S. District Judge Thomas Thrash effectively repudiated Atlanta’s technological and management efforts to clean up its CSO discharges in his summary judgment for *Upper Chattahoochee Riverkeeper Inc. v. City*. Finding high amounts of metal discharges and fecal coliform concentrations that frequently exceeded the maximum level “by magnitudes of many thousands of times,” the federal judge concluded that “the evidence is undisputed and overwhelming that the discharges in the culverts from the CSO treatment facilities do not meet Georgia Water Quality Standards.” Thrash’s decision also hinted at his distaste for what he considered to be Atlanta’s duplicitous attempts to skirt its obligations and blame EPD for the city’s own violations. Atlanta officials contended, for example, that they were unable or not required to obtain composite samples during many of fifty or more overflow events per year and that the EPD was aware that the BPC was not obtaining composite samples. Thrash responded, however, that the EPD permit required an approved sampling plan and that “This is not a mere technicality that Atlanta can nonchalantly ignore.” He further argued that even if the EPD had turned a blind eye to Atlanta’s lack of a sampling plan, “the EPD’s acquiescence is no defense to Atlanta’s flagrant falsification of the monitoring reports,” which were public records that needed to make sure the city was in compliance with federal and state water quality standards. Finally, although Thrash indicated that he

⁴⁶ “River in Peril: How Atlanta’s Sewers Threaten the Chattahoochee,” Part 1 of 4, *AJC*, 29, July, 1997; “Sewer Probe Cites a Sprawling Mess,” *AJC*, 16 October 1997.

would like to see the litigants work out a settlement on all sewer problems, he specifically ordered that a CSO settlement be reached by March 1, 1998.⁴⁷

The resulting CSO Consent Decree, which was officially signed by the City of Atlanta and the government and citizen plaintiffs on April 13, 1998, contained several features for remediating the city's CSO violations. First, it established July 1, 2007 as the target date by which the city's combined overflows must meet all CWA water quality standards. The decree did not specify the methods the city was to employ in its CSO overhaul but instead provided a precise timeline for the city to evaluate and submit short-term, interim, and long-term plans for plaintiff review and approval. Second, the agreement obligated the city to pay a \$2.5 million civil penalty to the United States and the State of Georgia for previous water quality violations—the largest one-time fine in the 26-year history of the CWA—as well as an escalating schedule of fines for each day it failed to meet any of the milestones or requirements set forth in the document. Third, the Consent Decree directed Atlanta officials to carry out a two-part, \$27.5 million supplemental environmental plan whereby the city was to a) purchase land for creation of a greenway corridor along the Chattahoochee River and its tributaries and b) conduct a one-time cleanup along Clear Creek, Tanyard Creek, Proctor Creek, Utoy Creek, Intrenchment Creek, and part of the South River.⁴⁸

The UCR's suit signals not only the fruition of STOP's earlier threats to innovatively use federal courts as leverage by which citizens could enforce federal environmental law, but also highlights the most positive effects of adversarial legalism.

⁴⁷ Thrash decision, 18, 21.

⁴⁸ City of Atlanta Consent Decree (April 1998), Sections VII, VIII, and X.

STOP, for example, pointed out that the city's mini-treatment plants would fail to treat adequately the heavy metal content that existed in the wastewater. But whereas STOP focused its attention on the expected shortcomings of the yet-to-be built Piedmont Park CSO facility, the UCR challenged water quality violations that occurred in those CSO basins that received less public scrutiny. Furthermore, the UCR's inclusion in the process for reviewing the city's forthcoming CSO abatement plans is consistent with Kagan's assertion that adversarial legalism, in its best guise, "provides citizen watchdog organizations access to the rule-making process in government agencies and, through threat of judicial review, helps guard against administrative arbitrariness or 'capture.'" In fact, it was the UCR's instigation of court action that arguably pushed the federal and state agencies to follow through with the mandate as regulators.

In July 1999, Atlanta officials and the EPA signed the so-called First Amended Consent Decree (FACD) in order to avoid litigation for the chronic wastewater system problems unresolved in the original Consent Decree. The FACD focused on bringing Atlanta's WWTFs and its wastewater transmission and collection system into full compliance with the NPDES requirements for state and federal water quality laws by July 1, 2014. It directed the city to create inventories and devise standardized procedures "to ensure that preventative and corrective maintenance is conducted" on the equipment necessary for the proper functioning of the WWTFs and collection system. It further called for system-wide mapping and the development of a Sewer System Evaluation Plan to address the structural integrity of the sewers to improve system capacity and prevent infiltration into sewer basins. Lastly, the FACD directed the city to submit, by March 1, 2000, a System-Wide Sewer Prioritization Plan that would contain specific methodology

for determining how phased sewer rehabilitation, repairs, or replacement would proceed.⁴⁹

CLEAN WATER ATLANTA: 1998 AND BEYOND

Although Mayor Campbell hailed the consent decrees as a “substantial victory for the people,” questions remained as to how Atlanta would pay for this massive remedial effort as well as for needed upgrades to its water supply system that serviced nearly 1.5 million customers. By the late 1990s the city shared ownership of a new 90 MGD treatment facility with Fulton County, but its more than 2400 miles of pipe and its two older plants, which had a combined capacity of 184 MGD, were beginning to show signs of old age. Moreover, reductions in water rates for out-of-city water users, contributions to the more than \$17 million in pollution fines that accrued since 1990, and 20 percent leakage losses meant that the AWW struggled to fund its own repairs, much less serve as a golden goose for the city’s treasury as it did decades before.⁵⁰ Cognizant that federal enforcement of water quality laws would require the city to more than double its existing water and sewer rates to pay for needed capital improvements, Campbell sought ways to minimize the city’s economic burden. Therefore, in January 1998 the mayor announced the city’s intention to implement private contract management of the entire water system to offset these costs.⁵¹

⁴⁹ City of Atlanta, *First Amended Consent Decree* (July 1999), Sections VII and VIII.

⁵⁰ During the 1950s the City of Atlanta was allowed to charge its non-citizen customers double rates. By the 1980s, however, customers in unincorporated Fulton County were charged only thirty-four percent more than Atlanta citizens. Further, in 2000, Fulton County planned to sue the city in order to equalize water rates. “Water Rate Debate Takes Step Towards Resolution,” *AJC*, 13 February 1997; “Fulton to Sue Atlanta Over Higher Water Rates,” *AJC*, 2 March 2000.

⁵¹ Steven Labovits, “Privatization of the City of Atlanta’s Water System: A Cost Savings Initiative and a Plan for the Future,” *Preparing for the 21st Century, Proceedings of the 29th Annual Water Resources*

Although Campbell expressed his philosophical opposition to privatization, he gravitated toward the strategy because it promised an environmental, financial, and political lifeline that would free up money for repairs and moderate rate increases. As Elizabeth Brubaker explains, privatization of municipal services generated a great deal of public enthusiasm during the 1990s as financially-stressed communities struggled to meet stricter environmental standards with outdated infrastructure. For aging cities searching for a way to meet these demands, privatization promised the benefits of efficiency, effectiveness, cost-savings, and competition that the free markets supposedly offered. "I predict every city in America will go to privately run water systems," Campbell said. "It's virtually impossible to finance the (necessary infrastructure) improvements without going to ratepayers, without privatization."⁵²

The decision to privatize was taken after consultants hired by the city to assess the water and wastewater operating systems recommended contract management for AWW operations could save Atlanta up to \$30 million annually over a period of twenty years. Such an arrangement, the consultants argued, could be conducted quicker than an outright asset sale, which would have required more political discussion than the time frame for pollution control permitted, and would lower costs to a greater extent than the mere reorganization and re-engineering of operations and facilities.⁵³

Planning and Management Conference (1999), 1; "Atlanta Agrees to Sewer Deal," *AJC*, 14 April, 1998; During the 1950s and 1970s Atlanta charged Fulton County residents double the water rate paid by city residents. The surcharge was later reduced 34 percent above the rate for Atlanta residents, but a subsequent lawsuit challenging the plan forced Atlanta to cut the premium to 21 percent. "Water System Offer Rejected: Despite Cash Crunch, Atlanta Snubs Fulton Proposal to Buy Pipe Network in County," *AJC*, 17 December 2003.

⁵² Elizabeth Brubaker, "The Promise of Privatization: A Study Prepared for the Walkerton Inquiry," (Toronto, Canada: Energy Probe Research Foundation, 2001), 5-9.

⁵³ The consultants initially proposed, and Campbell accepted, the idea that operations of the R.M. Clayton plant should be privatized as well. Georgia state law, however, only permitted only water systems, not

The process of privatization involved the invitation of a number of interested companies to bid for the delivery of water services. This was after the City had issued a combined Request for Qualifications (RFQ) and Request for Proposals (RFP) in March of 1998. A number of companies responded to this request and submitted tenders for the contract, which was eventually won by United Water, a subsidiary of Suez International, in October 1998. United Water's success was attributed to its bid being the lowest among the five competitors. The 20-year contract was worth \$21.4 million per year—44 percent less than the \$49 million the city had previously spent running the system—and promised Atlanta leaders an annual savings of nearly \$20 million. In all, the city was expected to save more than \$400 million over the duration of the contract.⁵⁴

Under the contract, which was to begin on January 1, 1999, and was the largest of its kind in America, United Water Services Atlanta (UWSA) was expected to operate, manage, and maintain the water supply system, while at the same time being responsible for raw water supply, treatment and distribution, billing, collection and other customer services. As well, the company was to undertake certain capital repairs and improvements. The city, on the other hand, was responsible for capital improvement planning, rate setting, negotiating and providing legal support for all intergovernmental

sewer operations, to be handed over for long-term, private management. Hence, contracted management of the Clayton WWTF was not pursued. "Privatizing to Affect Water Most," *AJC*, 16 January 1998; "Water Privatization Spurs Flood of Big Jobs," *AJC*, 4 December 1998; Labovits, "Privatization of the City of Atlanta's Water System," 3-4.

⁵⁴ According to Elizabeth Brubaker, one source of savings for United Water was to be the reduction in staff made possible by cross-training, increased employee productivity, and computerization. The city's request for proposals had prohibited layoffs in the first three years of private operations. The company went further, guaranteeing no layoffs for the life of the contract. Regardless, many staff members left voluntarily. When the deal was approved in October 1998, the water department had 535 employees. By the time United Water took over, that number had declined to 479. All 479 were offered jobs with current wages and benefits; 417 accepted. Elizabeth Brubaker, "The Promise of Privatization," 18-19.

and wholesale water agreements, developing and maintaining policy guidance, and all other related governmental functions.⁵⁵

Reaction to the privatization plan was cautiously optimistic. Some observers, such as Metro Group, a self-appointed watchdog group on local government, raised concerns about the proposed 20-year length of the contract and the weight to be given to cost in the final analysis. Others worried about the status of AWW employees, the extent of possible corruption in the bidding process, and the general speediness of the selection. Despite these misgivings, most in the community believed that Atlanta's plan to use a private contractor to deal with its water and wastewater problems was an ideal solution, saving money and relieving the onerous task of service provision, in order to focus on governance. As councilwoman Clair Muller explained, "I am encouraged that this will lead to a dedicated effort to get control of our environment."⁵⁶

With privatization of its water supply system ostensibly settled, city leaders then turned to the challenge of responding to the respective Consent Decrees. As explained, each decree stipulated that the city would implement interim pollution control measures while simultaneously conducting system-wide evaluations so that remedial measures could be proposed. On March 1, 2000, the City of Atlanta presented to the EPA and EPD its plan for rehabilitating its wastewater collection and transmission system. Prepared by CH2M Hill, a Colorado-based consulting engineering firm that designs infrastructure projects all over the globe, the report highlighted the status of ongoing sewer improvement projects as well as sewer mapping and SSO tracking programs. More

⁵⁵ Ibid, 5-9; "United Water 'a safe selection,'" *AJC*, 8 August, 1998.

⁵⁶ "Water, Sewer Privatization Gets Task Force Endorsement," *AJC*, 10 January 1998; "Atlanta Water Plan Has Bidders Pouring It On," *AJC*, 4 March, 1998; "Pitts Opposes Privatization Plan," *AJC*, 9 July 1998; "Privatization Process Meets with Confusion," *AJC*, 19 July 1998.

specifically, the plan divided the city's 2,200 miles of sewerage pipes into six "sewer groups" and provided criteria for prioritizing the schedule of phased sewer repairs and rehabilitation that would be completed between 2009 and 2014.⁵⁷

In the summer of 2001 Atlanta officials submitted to the EPA and EPD their preliminary recommendations for CSO abatement. This report, also prepared by CH2M Hill, contained an extended discussion of three viable CSO control options that the city considered and ranked according to levels of public approval, pollution reduction, affordability, and their ability meet the July 1, 2001 deadline. The alternatives included sewer separation except in the urban core (Option A), tunnel storage and treatment plant modifications with no sewer separation (Option B), and partial separation with tunnel storage and treatment plant modifications (Option C), all of which were argued to be capable of reducing overflow frequency from about sixty to no more than four events per year, as per the Consent Decree requirements.⁵⁸

City officials ultimately selected Option C as the most cost-effective approach for resolving their CSO dilemmas. It preferred this strategy for a number of reasons. Although the City of Atlanta considered full separation of its combined sewers to be part

⁵⁷ CH2M Hill, *System-Wide Prioritization Plan: Collection and Transmission System Remedial Action Program*. (March 1, 2000), 1-13, Appendix A.

⁵⁸ The 2001 *CSO Remedial Measures Report* was preceded by a September 1998 CSO evaluation and interim remediation report, which highlighted the flow monitoring, sampling, and disinfection techniques the city would undertake as short-term remedies. See, CH2M Hill, *The CSO Control Facility Evaluation Program: Remedial Actions for Combined Sewer Overflow Control Facilities* (September 1998).

Table 4.1— Comparison of CSO Control Options, 2001. (Source: CH2M Hill, *CSO Remedial Measures Report* (2001), Tables 4-9, 4-10, Section 4, 7)

	Compliance	Cost (estimated)	Pollution Reduction	Public Acceptance
Option A – 80% Separation & Tunnel Storage/Treatment	Could not be Completed by July 1, 2007	\$1.25 billion	Least	High
Option B – 0 % Separation & Tunnel Storage/Treatment	Yes	\$710 million	Greatest	Low
Option C – 27% Separation & Tunnel Storage/Treatment	Yes	\$950 Million	Next Greatest	Medium

Table 4.2 — Pollutant Removal at the Outfall for Viable Options. (Source: CH2M Hill, *CSO Remedial Measures Report* (2001), Tables 4-9, 4-10, Section 4, 17)

Parameter	Option A (1,000 lb/y)	Option B (1,000 lb/y)	Option C (1,000 lb/y)
Total Suspended Solids	8,496	12,639	12,539
Total Phosphorous	16.5	19.1	18.8
Copper	2.3	2.9	2.9
Zinc	5.0	13.3	13.1

of its 25-year environmental agenda, Option C could be completed by Consent Decree deadline of July 2007, whereas complete separation, which enjoyed the most public would provide pollutant reductions necessary to greatly reduce loading and thus improve downstream water quality and aquatic habitat conditions. Consolidated storage also provided the city with the flexibility to treat storm water and address expected future changes to the storm water regulations.

The distinction between Option B and Option C came down to the citizen groups responses. Options B and C were each capable of capturing and treating 98% of sanitary sewage flow & 85% of storm water flow. But despite being capable of removing slightly more of the BOD, suspended solids, copper, phosphorous, and zinc found in Atlanta's effluent, Option B lacked significant public support from many environmental activists because it did not involve sewer separation.⁵⁹ In July 2001 the EPA and EPD approved the city's plan to eliminate water quality violations from CSOs through a combination of tunnels and separation of selected sewer areas and instructed the city officials to proceed with creating more detailed design plans. Two months later, however, the EPA sent a sharply worded letter criticizing Atlanta's exaggerated cost estimates. From the regulators' standpoint, it appeared that the city was trying to show a larger-than-necessary impact on ratepayers in order to make a case for further delay.⁶⁰

Whether or not officials inflated the cost estimates, the city had to find a way to raise upwards of \$3 billion over the next 10 to 15 years to fix aging sewers and expand water and sewer capacity for new growth. On December 3, 2001, the City Council

⁵⁹ CH2M Hill, *CSO Remedial Measures Report* (2001), Section 4, pp.1-34.

⁶⁰ "Our Opinions: City's Sewer Problems Can't Be Delayed Longer," AJC, 1 October 2001.

responded by approving a resolution that authorized funding of \$1,277,500 for the evaluation and conceptual design of sewer separation in the study area. The resolution identified this as funding for Phase 1 of a proposed two-phase approach for Sewer Separation Evaluation and Conceptual Design. But the brunt of funding and managing the necessary capital improvements fell upon the shoulders of Atlanta's new mayor, Shirley Franklin, who was elected in November 2001.⁶¹

Dubbing herself the "Sewer Mayor," Franklin clearly recognized the seriousness of the watershed management problems facing Atlanta. Within six months of taking office, the former chief city administrator began to lay the groundwork for restoring confidence in the city's resolve. In June she created an independent review panel known as "The Mayor's Clean Water Advisory Panel" to "provide objective, expert advice for improving Atlanta's storm and wastewater systems." The panel, which was led by former Georgia Tech president G. Wayne Clough, was made up of nine members recognized for their expertise in municipal water or wastewater issue, environmental engineering, civil engineering and public health related sciences. Their specific charge was to review the city's Authorized CSO Remedial Plan and assess the "technical and scientific merit of the plan and any modifications, as well as the reasonableness of cost estimates and completion times" and provide a preliminary report no later than September 15, 2002.⁶²

Between June and September the Clean Water Panel held four day-long meetings and reviewed extensive documentation provided by consultants, city engineers, and

⁶¹ COA, *Atlanta Combined Sewer System Evaluation and Separation Plan, Volume I: Sewer Separation Plan Final Report* (January 2003), Section 1, p 2.

⁶² COA, *Clean Water Final Report*, Introduction, Appendix I: Mayor Shirley Franklin's Administrative Order #2002-4.

interested citizens. In the process they considered the Authorized Plan as well as six additional refinement options that ranged from 0 to 100 percent separation. The panel immediately rejected plans that called for 40 percent or more separation. The reason for this decision is that anything that enters a storm sewer system is discharged untreated into the water bodies. Storm water is the result of rainfall washing across impervious surfaces, carrying with it the pollutants found on streets, parking lots, and rooftops. As the Clean Water Panel recognized, separation would increase the amount of pollutants entering local waterways because these plans contained no storm water treatment provisions.⁶³ Thus, by a process of elimination the panel confined their discussion to three remaining alternatives: 1) tunnel and storage (no separation); 2) the Authorized Plan (27 percent separation); and Refinement Option 1 (27 percent separation).

Although the percentage of sewer separation for Refinement Option 1 was the same as that of the Authorized Plan, it would be achieved using a full basin separation where possible. The city's combined sewer system consisted of 11 CSO basins in two areas, the West Area CSO basins that drain to the north and the East Area CSO basins that drain to the south. Under the Authorized Plan, West Area and East Area tunnel storage and conveyance systems were to be constructed with dedicated CSO treatment facilities to service the entire 19 square miles of existing combined sewers. Through partial separation, this plan would achieve 90 percent separation of the city's *total* service

⁶³ On the subject of sewer separation and storm water management, the panel wrote: While some who presented to the panel considered separation in itself a goal, the panel does not agree. With separation, treatment of storm water becomes a larger issue and storm water in the densest areas often carries larger pollutant loads. Even though an argument can be advanced the CSO Consent Decree does not require treatment of storm water, this misreads the situation. First, federal and state standards will shortly require cities to ensure that their storm runoff does not pollute streams and rivers, so the issue will have to be faced sooner or later. Second, neither downtown constituencies nor regulatory agencies will accept an arbitrary decrease in water quality in the rivers. In the end, pollution is pollution, and the City needs to step up and address the issue." Ibid, 4.

area but no CSO basin was to be fully separated. This was in contrast to Refinement Option 1, which would separate two full and one partial drainage basin and would eliminate two CSO facilities. It was for this reason that Refinement Option 1 would get a green light over the tunnel and storage (zero separation) option.⁶⁴

On October 15, 2002, the panel submitted its Final Report to Mayor Franklin. Its recommendation was for the city to pursue Refinement Option 1. This option, the panel argued, “used well-established technology, exceeds the water quality expectations in the Consent Decree, can most likely be completed by 2007, has the second lowest cost of all options, and will cause a relatively low level of construction disruption.” In addition, the panel cited that, unlike the zero separation/tunnel and storage option, Refinement Option 1 eliminates two full CSO facilities including the McDaniel CSO facility, which the EPA deemed the “worst violator.”⁶⁵

Not everyone was thrilled with the Clean Water Panel’s recommendation. Local environmental engineer Justin Wiedeman believed that the city was not devoting enough attention to storm water management. His strategy, known as the “Wiedeman Plan,” pushed for 80 percent separation in order to eliminate the East area tunnel and reduce the

⁶⁴ Ibid, 4-7. The treatment facilities for the four West Area CSO basins consist of four CSO facilities and a wastewater treatment plant: the Clear Creek, Tanyard, North Avenue, and Greensferry CSO buildings and the treatment facility at the R. M. Clayton Water Reclamation Center. The East Area contained the remaining CSO facilities. Flow from McDaniel Basin is discharged via the McDaniel CSO Facility, and flows from the Lloyd, Connally, Grant Park, Stockade, Boulevard and Intrenchment basins discharge into the Boulevard Regulator, as described later in this section. Wet weather flow from the Boulevard Regulator then flows to the Intrenchment Creek Tunnel via the Custer CSO Facility. Flow from Stockade Basin discharges into the Confederate Regulator. Wet weather flow from the Confederate Regulator then also flows to the Intrenchment Creek Tunnel via the Custer CSO Facility. For a more complete description of the individual facilities, see COA, *Atlanta Combined Sewer System Evaluation and Separation Plan*, Section 1, pp. 4-9.

⁶⁵ Ibid, 8.

West area tunnel size, which he argued could subsequently be tied in with the R.M. Clayton plant for greater flood control. In his presentation to the mayor's panel, Wiedeman stressed that "you have to look at storm water management upstream and downstream from the CSOs" because insufficient capacity within the combined system contributed to localized flooding, impacted public health and impaired quality of life by threatening economic development and real estate values. Others, like the Clean Streams Task Force, a group of academics, environmentalists, and neighborhood activists, wanted the city to spend an estimated \$1.79 billion to replace combined sewers with separated ones and buy 600 acres for ponds and wetlands to naturally filter and clean polluted storm water. Preston Mason, ever the proponent of full separation, concurred, arguing that the city's plan "does not eliminate the problem. It only reduces the problem so that the engineers get to come back and design yet another multibillion dollar solution." He continued, "Why don't we bypass these self-serving engineers and do the right thing?"⁶⁶

Despite these criticisms, the Clean Water Panel was unanimous in its recommendation: not only would full separation be too disruptive to downtown residents and business, it was extremely expensive and, most importantly, it could not be completed within the Consent Decree time frame for compliance. "Atlanta is 20 years behind where it should be," the experts wrote, "and it stands out as an exception to other major cities that took action years ago." "Some of these people are just misinformed," Dr. Clough said. "The city of Atlanta cannot go to 100 percent separation. Downtown Atlanta

⁶⁶ Ibid, July 15 2002 public meeting, 27; "Sewer Decision by City Represents a Missed Chance," *AJC*, 21 October 2002; "Atlanta's Sewer Woes: Billion-Dollar Question: How Best to Fix City's Infrastructure? Critics Say Mayor's Plan isn't Enough," *AJC*, 28 October, 2003.

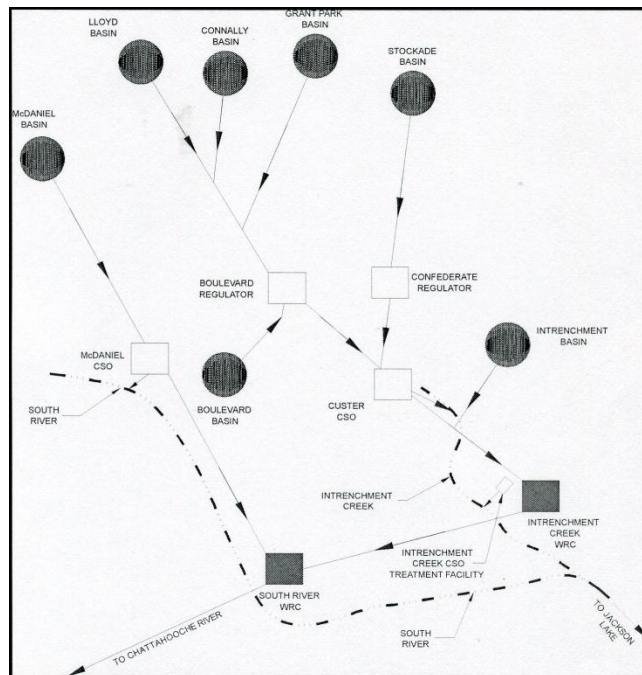
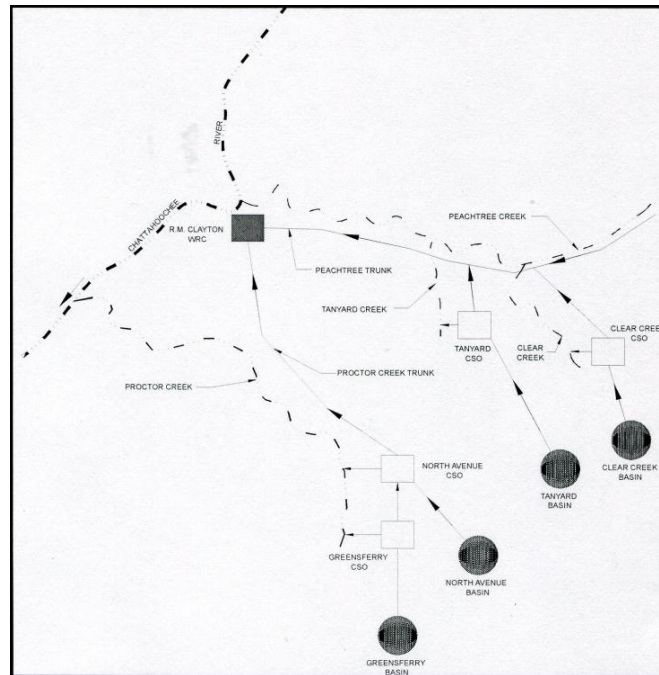


Figure 4.2 – Combined Sewer Overflow Basins. (Source: City of Atlanta, *Atlanta Combined Sewer System Evaluation and Separation Plan*, 2003)

would come to a grinding halt. It's easy to criticize. But, you've got to have an alternative. You'd have to dig up 2 1/2 miles of sewers on the Georgia Tech campus alone."⁶⁷

One day after receiving the panel's final report, which her administration regarded as cost-effective and environmentally sound, Mayor Franklin announced the beginning of the Clean Water Atlanta initiative, a comprehensive, long-term plan to ensure clean drinking water for Atlanta, and clean streams and clean wastewater flows for Atlanta and its downstream neighbors. Echoing the Clean Water Panel's assessment of the state of Atlanta's environmental stewardship, Franklin was forthright about why the city needed to move forward in such an aggressive manner. "When it comes to sewers and clean water . . . we've avoided the tough decisions for too long in Atlanta."⁶⁸

Asserting that she was "not interested in the easy answers," Franklin put together a five point plan for improving the city's wastewater system. First, Atlanta would seek to implement the Clean Water Panel's Refinement Option 1 recommendation. This involved the complete separation of the Greensferry and McDaniel CSO Basins and the partial Stockade Sub-basin (Custer CSO Basin). It would additionally require the construction of the Southeast's largest deep-rock tunnel to capture and store combined storm water and sewage flow for conveyance to two new CSO treatment facilities for near-secondary treatment before discharge to the Chattahoochee or South Rivers. Second, to fulfill the FACD, city staff would construct the Nancy Creek tunnel to reduce SSOs in the North Atlanta/Dunwoody area. The city would also develop preventative and maintenance

⁶⁷ *Clean Water Final Report*, 1; "Speed of Sewer Overhaul Defended," *AJC*, 1 June, 2003.

⁶⁸ DWM, Mayor Franklin's Speeches: "Clean Water Initiative"

strategies that included milestones for inspecting, cleaning, and relining sewer network and launch a full-scale grease management program. Third, Atlanta would create a storm water “Master Plan” to both maximize the use of green space and ponds to reduce storm water flooding and pollution and involve the public in the establishment of storm water utilities to assist in this cause. Fourth, the city would enter into a partnership with federal agencies such as the U.S. Geological Survey and watchdog groups like the Upper Chattahoochee Riverkeeper to create a water quality monitoring program to ensure the effectiveness of the Clean Water Atlanta program.

The cornerstone of Mayor Franklin’s program, however, was the reorganization of a city administrative department to create the comprehensive Department of Watershed Management (DWM). The DWM includes the city’s two water-related bureaus—Wastewater Services and Drinking Water—along with Engineering Services and the proposed Stormwater Management Utility. This organizational structure allows DWM to plan, design, construct, operate and maintain the city’s entire system of water and wastewater treatment, pumping, collection and distribution, and proposed storm water management facilities. Jack Ravan, former director of the Alabama State Docks and a former administrator for the EPA, was named as commissioner of the new department. Ravan’s job, which he considered to be largely “managerial,” was to be lead negotiator on consent decrees, to be the point person in dealing with an often skeptical public, and to represent the administration to the City Council.⁶⁹

⁶⁹ Department of Watershed Management, “Clean Water Atlanta (CWA) Overview,” <http://www.cleanwateratlanta.org/Overview/> (accessed April, 17, 2011); “Mayor Picks EPA Veteran to Head Sewer Fix-Up,” *AJC*, 16 August 2002.

Although pollution control remained a priority, one of Ravan's first tasks was to re-municipalize Atlanta's water supply operations. Over the course of its four-year tenure, United Water created a substantial amount of ill will among customers and city officials for its substandard performance. In August 2002, the City of Atlanta officially placed UWSA on a 90-day probation period to determine whether the company could meet the terms of its \$21 million per year contract or whether the firm should be fired. After receiving a 4-inch-thick black binder containing detailed allegations regarding insufficient maintenance and staffing, tardy meter installation and leak repairs, poor collection of water bills and improper payment requests, UWSA's vice president Dave Montgomery issued a statement saying that his firm welcomed the review. "We take the concerns expressed very seriously, and we look forward to demonstrating satisfactory performance in the days ahead," Montgomery said. "United Water views this correction period as an opportunity to present a clear and factual measurement of our performance." The mayor responded that she was willing to exercise the contract's "termination at will" clause if the company did not perform. "I'm prepared to take whatever action is necessary to assure that we have a well-run water system," Franklin said. "They say they can do it. Now, we are telling them to show us." Noting that "Franklin now has the opportunity to insert accountability into the process," the editorial staff of the *Atlanta Journal-Constitution* asserted, "It's time to make these bozos do the work, or cancel their sweetheart contract and sue them."⁷⁰

⁷⁰ City officials charged, for example, that United Water failed to flush the system twice a year as it was supposed to. This left sediment in the lines, causing discolored water and numerous boil-water advisories. Many buildings and attendant infrastructure appeared to be crumbling as well from neglect. Furthermore, throughout the contract period, the company was able to install only 750 meters per year, which the city claimed it had been able to do in a month. Despite being contractually obligated to collect 98.5 percent of all billings and remit that to the city, a review by Franklin's staff found that the firm only collected 94.2

Three months later UWSA made a final pitch to remain in business with Atlanta. It pointed to the arrival of new highly qualified managers as well as the high scores the firm received for water quality and customer service during its probationary period. And though the company claimed that Atlanta grossly underestimated how much work would be required to run its aging system, CEO Michael Chesser offered to guarantee no fee increases until at least 2006 despite the losses his company had incurred. “We’ve built up a lot of momentum,” a company spokesperson stated. “We would be humble and hoping that the city would want to keep us around.”⁷¹

Atlanta officials were not persuaded by Chesser’s letter or the company’s stepped-up performance. “We still believe there are a significant number of items that have not been corrected,” stated Mayor Franklin’s chief policy officer Greg Giornelli. “There are a number of areas in the contract that are not being met.” The city’s own \$1 million audit of UWSA operations, in fact, showed that privatization had saved approximately \$10 million per year, which was about half of what Atlanta was promised. Worse still, the audit claimed that UWSA owed the city’s treasury \$23 million for fees it had failed to collect, had billed the city for work on “capital repairs” that was actually routine maintenance, and had shown reluctance to share information about how much water it withdrew from the Chattahoochee River. After Jack Ravan concluded UWSA was in default and recommended that the contract be severed, City Hall gave the private

percent, which required the city to bill United Water to cover the shortage. Late in 2001, United Water also asked the City of Atlanta to pay \$12 million for work the firm claimed to have done beyond the scope of its contract in the previous three years. The contractor, projecting the amount over the remaining 17 years, asked for an additional \$68 million. “Franklin Assails United Water: Atlanta May Rethink Deal,” *AJC*, 12 June 2002; “Our Opinions: United Water Deserves Dunking,” *AJC*, 13 June, 2002; “Probation Begins for Atlanta’s Water Firm,” *AJC*, 12 August 2002; “Mayor Lets Criticism Flow in Water Tome,” *AJC*, 20 August 2002.

⁷¹ As “United Water Offers Cost Freeze to Keep Contract,” *AJC*, 17 January 2003.

utility a choice: walk away or be fired. The firm accepted the city's decision and on January 24, 2003, the city and company jointly agreed to dissolve the 20-year contract.⁷²

"I am absolutely confident the city can and will run an efficient water system that will provide high-quality, dependable drinking water for all of its customers," the mayor declared. She announced that the 346-person water department would be run by Director Chris New, a second-generation waterworks employee who had been overseeing United Water's operations. Jack Ravan, who was to provide direction and guidance for the department as DWM Commissioner, explained that "public health drives this decision" and that "I consider this a responsibility of the city to provide safe potable water at the best price."⁷³

It is clear that the *AJC*'s editorial nod to Franklin's apparent competency could equally be understood as a dismissal of Bill Campbell's tenure as mayor. Campbell, who had been roundly criticized in the local press for his handling of the city's sewer and water troubles, would later be indicted on racketeering, bribery, and wire fraud charges and sentenced to a thirty-month prison sentence for tax evasion he committed while in

⁷² *Ibid*; In deciding to terminate the contract, the parties agreed to resolve all claims against each other. Atlanta, for example had argued that UWSA owed the city \$23 million for fees it failed to collect; United Water wanted \$40 million for work it said had done beyond the scope of its contract. Under the terms of the settlement, the City of Atlanta received \$5 million. "Atlanta, Water Firm Split: Pact Dissolved After Four Contentious Years, *AJC*, 25 January 2003; The failed attempt at privatization also generated a fair amount of coverage in the media as well as in professional publications. For examples, see Public Citizen, *Water Privatization Fiascos: Broken Promises and Social Turmoil* (Washington D.C.: Public Citizen, 2003); Mary R. Powers and Debra Rubin, "Severed Atlanta Water Contract was Tied to Unclear Language," *Engineering News-Record* 250 (February 10, 2003): 14-15; "As Cities Move to Privatize Water, Atlanta Steps Back," *New York Times*, 10 February 2003; "Water Board Hopes to Learn from Atlanta: City's Privatization Venture Went South," *New Orleans Times-Picayune*, 17 April 2003.

⁷³ "Atlanta, Water Firm Split: Pact Dissolved After Four Contentious Years, *AJC*, 25 January 2003; "Water Chief Not New to System," *AJC*, 26 January 2003.

office.⁷⁴ And while most observers regarded Campbell as an individual who received the justice he deserved, some of the most diehard racial conservatives would invariably interpret Campbell's conviction as the latest confirmation that Atlanta's problems stemmed from black political control. Recall, for example, William Hartsfield's 1943 letter to the "gentlemen" of Buckhead and Druid Hills, when he pointedly asked the proposed area of annexation "do you want to hand them [blacks] political control of the city?" Consider the late 1960s leaflet that stated, "Under the one-man/one vote ruling, the lowest least educated and most irresponsible biped has the same vote as does the educated, responsible, and conscientious taxpayer . . . What kind of government will this give us in Atlanta?" And while evidence shows that environmental troubles pre-dated black political control, and some scholars suggest that black mayors had won a "hollow prize" by inheriting cities with diminished tax bases and in desperate need of improved public services, it is not unfair to suggest that there was in Atlanta an undercurrent of white hostility toward black politicians during the post-Civil Rights era.⁷⁵

BROTHER, CAN YOU SPARE A DIME?: FINANCING CLEAN WATER ATLANTA

Mayor Franklin's greatest challenge was finding ways to finance the staggering costs of upgrading both the water and sewer system. By the time the city had re-taken control of water supply operations in April 2003, DWM officials were suggesting that, in addition to the estimated \$42-49 million required annually for operational costs, \$799.2 million would be needed for improvements to the network of pipes and treatment plants

⁷⁴ "Look Below Surface of Water Deal," *AJC*, 8 October 1998; "The Bill Campbell Verdict," *AJC*, 11 March 2006.

⁷⁵ For the entire Hartsfield quote, see Chapter Two. The 1960s leaflet is quoted in Kevin Kruse, *White Flight*, 248; For a review of the Hollow Prize thesis, see Neil Kraus and Todd Swanstrom, "Minority Mayors and the Hollow-Prize Problem," *Political Science and Politics*, 34:1 (March 2001): 99-105.

in order to bring the water system back up to snuff. This was on top of the nearly \$1.8 billion required by the two consent decrees. In total, the mayor was seeking \$3.18 billion to pour into the city's water and sewer infrastructure.⁷⁶

Obtaining federal and state aid proved tricky. In October 2003, Mayor Franklin requested \$50 million in annual state grants over a ten-year period as well as Governor Sonny Perdue's assistance in getting a recalcitrant Congress to provide \$1 billion in federal support. But the well was dry, so to speak. President Pro Tem of the state senate, Eric Johnson, responded to the mayor's entreaty by saying that he would not burden American taxpayers with Atlanta's problems by appealing to federal officials. "We didn't cause Atlanta's problems and we shouldn't have to bail them out, no more than we have the right to ask Atlanta to give us a half billion for our budget problem." Governor Purdue was more diplomatic. Although he denied the initial request for the \$500 million in state grants, by the end of the year he arranged for the same amount in low-interest loans to be provided by the state legislature over the next decade.⁷⁷

⁷⁶ Jack Ravan drew up a business plan for the new water system, projecting annual costs of \$41.1 million with 347 employees, plus \$10.4 million in one-time start-up costs. City Auditor Leslie Ward, however, said when costs to other departments are added in -- new staff in purchasing, personnel, payroll, etc. -- the city operation will cost more than \$49 million. "City Vows Better Job on Water: But Costs May Go Up With Service," *AJC*, 14 February 2003. The \$2.38 billion that Franklin hoped collect from federal, state, and local sources was to be spent in the following ways. Nearly \$700 million to upgrade the combined sewers would pay for an 8.5-mile tunnel on the city's west side and a huge wastewater storage tank on its east side. An additional \$186 million would pay for digging up streets and lawns and laying pipes to separate about a quarter of the combined sewers in neighborhoods that include West End, Adair Park, Grant Park, Ormewood Park and Cabbagetown. Atlanta would spend about \$963 million through 2012 to repair and replace leaky sewage-only pipes and add storage capacity. The remaining \$550 million or so would go toward upgrading sewage treatment plants and adding capacity for future growth. On the total cost and breakdown of Clean Water Atlanta, see "Atlanta's Sewer Woes: Billion-Dollar Question: How Best to Fix City's Infrastructure? Critics Say Mayor's Plan isn't Enough," *AJC*, 28 October, 2003.

⁷⁷ "Atlanta's Sewer Woes: Governor Rejects Franklin's Bid for Aid," *AJC*, 28 October 2003; "Perdue Offers Sewer Money," *AJC*, 24 December 2003.

Franklin also faced numerous city council and county commission members who expressed sticker shock over Clean Water Atlanta's price tag. Critics of the project pointed out that the consent decrees only required \$1.8 billion worth of work while the mayor's plan called for \$3.2 billion, much of which was to be raised by an increase in water and sewer rates and a one cent bump in the local sales tax. She responded to these detractors by pointing out that the improvements she was seeking to complete would ensure future compliance with state and federal environmental regulations. "Is all of the \$3 billion required by the consent decree? If you want to split hairs, you could say not. However, the reality is that both the unfunded mandates and consent decree orders must all be completed to provide clean water and eliminate future fines and court orders."⁷⁸

Franklin essentially sought annual increases in water and sewer charges that amounted to a tripling of rates over five years. After scores of citizens howled in protest over the proposal, the city council decided on December 1, 2003 for more modest increases. One week later Franklin vetoed the measure as insufficient and continued to push for her plan to be completed in its entirety. Resistance to Franklin's plan melted when Judge Thrash and the EPA renewed threats of fines and a receivership and three separate bond rating agencies downgraded the status of Atlanta's water and sewer revenue bonds from A- to BBB+ over "the political antics that are taking place." The pressure worked and on January 5, 2004 the council adopted a three-tiered pricing structure, with

⁷⁸"Atlanta's Sewer Woes: Governor Rejects Franklin's Bid for Aid," *AJC*, 28 October 2003.

fees escalating with water use, which promised to raise \$2.3 billion of the \$3.2 billion Mayor Franklin sought.⁷⁹

Several months later Governor Perdue showed his support for Mayor Franklin's plan when he signed a bill that gave the City of Atlanta the power to bypass Fulton County and call for a referendum to raise the local sales tax from seven to eight percent in order to avoid further water and sewer rate increases. Under Georgia law, only the state could approve sales tax increases and, what is more, only counties had the authority to call a referendum on the issue. Despite the possibility of such a special purpose tax generating between \$70 million and \$100 million per year, Fulton County had repeatedly denied city requests and had instead offered to purchase DWM water supply lines that extended beyond the city and into North Fulton County for \$220 million. "Some might say that Atlanta sewers are Atlanta's problems," Perdue said, "but while the state can't bail out the city, we can help solve the problem." When Fulton County again refused to

⁷⁹ For those that used more than 2500 gallons per month, Franklin proposed a 45 percent increase in 2004, followed by another 45 percent increase in 2005 and 11 percent increases in each of the following three years. Residents howled in protest. The city council, which was concerned that that such increases were too drastic for city with a poverty rate of 24 percent among individuals and 21 percent among families, voted in December for more modest increases. Under their plan water and sewer bills for the typical customer would only increase by 14 percent next year, by 16 percent in 2005, and about 6 percent each year thereafter. The January 2004 compromise each customer who used 2,250 gallons of water a month or less was pay a 10 percent increase in 2004 and a total of 58 percent more by 2008. Consumption between 3,000 and 4,500 gallons a month were to be billed at a rate 26 percent higher in 2004 and 121 percent higher by 2008. Those aged 65 or older whose annual household income is \$25,000 or less are allowed a 30 percent reduction in rates if they register for the discount. Water use in excess of 4,500 gallons a month will cost 45 percent in 2004 and 199 percent more by 2008. Rates are based on 100 cubic feet of water per month (1 CCF is about 750 gallons). The average rate payer uses 8 CCFs a month (6,000 gallons). Therefore, between 2003 and 2009, the average water user in Atlanta saw their water/sewer bill climb from \$49.60 per month to \$107.54, making Atlanta's water/sewer services among the most expensive in the country. "Mayor: Sewer Fix not Enough: Negative Impact on Growth Feared, *AJC*, 3 December, 2003; "Sewer Woes May Impact City Finance," *AJC*, 15 December 2003; "Revised Water Plan No Break for Most," *AJC*, 11 January 2004; "What Stinks? High Cost of Water, Sewer," *AJC*, 4 October, 2009.

call a referendum for the July 2004 primary elections, Atlanta asserted its new-found right and approved what became known as the Municipal Option Sales Tax (MOST).⁸⁰

Despite the funding provided by the MOST, Atlanta's water and sewer rates climbed to among the highest in the country. But, these rates have been essential to the investment in the city's infrastructure, and what city residents have gotten in return is cleaner and safer rivers and streams for Atlanta and for downstream neighbors. "It's a generational expense for a generational asset and generational benefits," said Commissioner Hunter. "Unless you want the water and sewer system to get in the condition they were in, you need to invest in it."⁸¹

Although Atlanta reported receiving just \$6.7 million in federal aid while spending \$3.4 million lobbying for that aid, Mayor Franklin's Clean Water Atlanta program has largely been considered a success by those most involved. On the ten-year anniversary of the Upper Chattahoochee River Keeper lawsuit, UCR executive director Sally Bethea stated, "Without a doubt there are fewer spills of raw sewage and partially treated sewage into the Chattahoochee today than 10 years ago. . . . The river is definitely better off when it comes to the impact of the city of Atlanta." Regarding Shirley Franklin's efforts to end the decades of apathy and inaction by previous administrations, Bethea added, "This mayor has dealt with the problem head-on. She's learned about the

⁸⁰ "Perdue Boosts Sewer Plan," *AJC*, 28 April 2004; "Election 2004: The Primary: Atlanta: Sales tax for Sewer Finds Favor with Voters," *AJC*, 21 July 2004.

⁸¹ For a comparison of national water rates, see "What Stinks? High Cost of Water, Sewer," *AJC*, 4 October, 2009.

problems. From a political standpoint we are light-years [better off with the Franklin administration]."⁸²

CONCLUSION

While Atlanta's city officials were hardly surprised that federal and state environmental agencies began to enact ever stricter effluent control standards, few within municipal government were likely prepared for the determined response by local activists and organizations to the city's pollution abatement strategies. The opposition that emerged over the city's initial CSO and phosphorous control plans indicated how local citizens would resist both the short-sighted plans by engineering-experts the overly deliberate abatement proposals offered by the city and regulatory agencies.

The skepticism on display in Atlanta is characteristic of post-war opposition to piecemeal development programs that threatened communities with environmental harm. But the NIMBYism seen in Atlanta was also shrouded in issues of race and class that may be specific to this post-civil rights era southern metropolis. Community protests in Utoy Creek over the need for CSO separation and the enlargement of a nearby WWTF hinged on questions of environmental racism and the ability of seemingly marginalized black citizens to influence the course of technological development in their neighborhood. Meanwhile, many affluent white residents of Mid-town Atlanta focused their ire on the efficacy and aesthetic consequences of the mini-treatment plant that was to be constructed within the city's premier recreation site. Other whites, many of whom resided outside of the city, not only questioned the wisdom of community protests but

⁸² "City's Response to River Lawsuit Widely Praised 10 Years Later, Chattahoochee in Better Health," *AJC*, 10 October 2005.

also seemed to interpret Atlanta's inability to address its pollution problems and its failed attempt to privatize its water system as an indication of the failures of black political leadership.

The loss of political legitimacy, together with Atlanta's slow response to regulatory imperatives, left the city vulnerable to millions of dollars in fines and to legal actions initiated by a second wave of environmental activism, who secured a court-ordered. Mayor Franklin's response to the federally-mandated consent decrees, the *Clean Water Atlanta* initiative, eventually propelled the city down the path of achieving comprehensive management of local water resources, but at a dramatically increased cost for Atlanta's citizen customers.

CHAPTER FIVE

THE BIG THIRST: THE ORIGINS AND EVOLUTION OF THE TRI-STATE WAR WARS

The increasing and competitive demands for available water seem to indicate that the end to the days of “easy water” may be approaching. There must be sophisticated management and conservation of the region’s water resources. It is increasingly difficult for unilateral decisions to be made regarding water resources. The resources and management requirements of water resources decisions will increasingly dictate the cooperation of local governments with one another, as well as with state and federal agencies and private utilities.

Atlanta Regional Commission, 1976

During the second half of the twentieth century, the Metropolitan Planning Commission (MPC) and its successor, the Atlanta Regional Commission (ARC), consistently stressed the interrelatedness of the region’s water and wastewater problems. Metropolitan Atlanta, the planning body recognized, relied almost exclusively on the Chattahoochee River to meet its expanding total water requirements. Increased withdrawals for water supply, however, reduced the stream flow needed for dilution purposes and consequently made higher degrees of wastewater treatment necessary. To remedy this, the ARC advocated for the coordinated control of water resources on an area-wide basis to ensure that the region’s water quantity and water quality needs would be adequately met. In its 1969 *Atlanta Region Comprehensive Plan*, for example, it recommended that a single metropolitan authority be established to provide sewer

service, raw water supply requirements, and public water supply for all communities in the five-county metropolitan area.¹

Although the ARC would collaborate with the Army Corps of Engineers, the Georgia Environmental Protection Division (EPD), and local governments in setting withdrawal and effluent discharge permits for all water users within the region, the agency lacked the legislative authority necessary to compel metropolitan officials to transfer control of water and sewerage operations to a unified administrative body. As a result, integrated water and sewerage management practices largely remained an unrealized goal. Rather, individual jurisdictions continued to jealously guard their ability to independently determine their own service rates and infrastructural development despite the fact that a bulging metropolitan population, land use changes, energy demands, and recurrent droughts placed greater stress on the relatively meager Chattahoochee watershed.

By the twilight of the twentieth century the consequences of metro Atlanta's failure to achieve a cohesive water resource policy had become readily apparent. As explained in the previous chapter, despite the infusion of federal assistance that the city received during the 1970s and early 1980s to improve its water quality, Atlanta's local waterways remained in a terrible state due to the delayed implementation of effective pollution control technologies. In addition, the states of Alabama and Florida filed suit in 1990 to stop the Army Corps of Engineers from reallocating portions of Buford Dam storage for the purpose of supplying Metropolitan Atlanta with greater amounts of water,

¹ ARMPC, "Water and Sewerage," 7, 20-21.

prompting a twenty-year legal battle in which Atlanta's economic future hung in the balance.

This chapter focuses on Atlanta's ongoing attempts to secure more water from the Chattahoochee River. It first explores the post-Plan of Improvement activities of the AWW and its water-using metropolitan neighbors to provide context for understanding the emergence of the litigation known as the Tri-State Water Wars. It argues, unlike most accounts of the interstate dispute, that controversy began in the 1960s over water quality and evolved into concerns about water quantity as the region's decentralized suburban development and profligate water consumption, coupled with a series of severe droughts in the 1980s, created fears among downstream interests that Atlanta's continued growth would come at their expense. To that end, Chapter Five also explores the various short-term and interim strategies that ARC and the Army Corps of Engineers (Corps) implemented as they worked toward a long-term water solution for the region. Lastly, this chapter discusses the legal framework that has been historically used to resolve water disputes and how the various parties have ultimately relied on federal courts to determine whether Atlanta has the right to impound and divert more water for its own use.

METROPOLITAN DEVELOPMENT AND DOWNSTREAM ANXIETIES, 1950-1975

As explained in Chapter 2, in the years following the Second World War, the City of Atlanta engaged in a two-pronged plan of attack to mitigate the deleterious effects of ongoing suburban sprawl. First, city officials tripled Atlanta's corporate boundaries and acquired 100,000 new tax-paying citizens through the annexation of portions of unincorporated northern Fulton County under the so-called Plan of Improvement.

Second, after interpreting land use patterns that suggested the possibility of self-sustaining economic and residential development—population and markets clustering around industrial jobs that follow transportation routes—the City of Atlanta collaborated with its regional planning agency, the MPC, to bolster the area’s network of highways and streets and attendant urban services to make sure that the City remained the economic and cultural anchor for the four-county metropolitan area.

Obtaining adequate water for a metropolitan region that relied so overwhelmingly on surface water sources was among the planner’s top priorities. The widely varying flows in the Chattahoochee River, the source of ninety percent of the area’s water, were of particular concern. In 1954, for example, North Georgia’s worst recorded drought reduced water levels reaching Atlanta to 148 million gallons per day (MGD), far below the 1034 MGD that the region’s planners deemed necessary to meet the area’s total water supply and wastewater needs. Adequate regulation of the Chattahoochee River was secured, however, during the late 1950s and early 1960s with the completion of Buford Dam and the modification of Morgan Falls Dam to allow for more uniform flows into Atlanta.²

Confident that the new reservoir system would meet the region’s water resource needs for the foreseeable future, Atlanta and its metropolitan neighbors began to develop their respective water supply systems. Consistent with the mandates of the Plan of Improvement, the City of Atlanta embarked on a multi-year capital improvement program to supply water to its new “citizen-customers.” By 1965 the city had expanded

² Atlanta Regional Commission, *Water Supply Plan for the Atlanta Region: Part I: Needs, Sources, and Policies* (Atlanta: July 1976), 17 [hereafter cited as 1976 WSP].

its distribution network to cover a service area of approximately 600 square miles and had completed the enlargement of its Hemphill Treatment Plant and the construction of the new 20 MGD Chattahoochee River Treatment facility, to bring its treated water capacity to 92 MGD. With these improvements the AWW supplied water to approximately 625,000 customers in Fulton County as well in the city of Forest Park in Clayton County. The relative growth in water system capacity in other metropolitan counties, where most residents had depended on wells or small streams until the mid-century, was just as impressive. Cobb County, which had purchased water from the AWW until 1951, was able to produce 18 MGD of treated water by 1965, while DeKalb County, which established its water authority in 1942, had a total capacity of 48 MGD by the same date. All told, the municipally-owned AWW and the county-wide Water Authorities of Cobb, Clayton, DeKalb, Douglass, Gwinnett, and Rockdale Counties had a treatment capacity of nearly 188 MGD by the end of the 1960s.³

But Metropolitan Atlanta did not exist in splendid isolation, and as its water capacity expanded in the post-war years, disputes over conflicting water demands quickly followed. Buford Dam was merely the northernmost of four federally-operated dams constructed between 1957 and 1963 to regulate the flow of the Apalachicola-Chattahoochee-Flint (ACF) River Basin. Support from communities south of Atlanta had been instrumental in securing Congressional authorization for these projects. For most

³ ARMPAC, *An Inventory of Water and Sewer Systems in Metropolitan Atlanta*, 1-59; ARMPAC, *Atlanta Region Metropolitan Plan: Water and Sewage*, 1-3. According to the ARC, it is standard engineering practice to design water supply facilities so that they are capable of handling peak daily demand (or loads). In the case of water supply facilities, peak daily demand is normally considered, based on national studies and surveys, to be one and one-half (1.5) times the average daily water demand. For an explanation of the methodology adopted by the ARC to determine total water demand, see ARC, *Regional Water Supply Plan* (Atlanta: June 1983), 4-7 [hereafter cited as 1983 WSP].

southern ACF water users, supplying Metropolitan Atlanta with adequate amounts of water was merely an “incidental” function of Buford Dam. Far more important to them was the achievement of river regulation for purposes of power generation, flood control, and navigation.⁴

Downstream citizens began to voice concerns by the mid-1960s and early 1970s about both the quality and quantity of water reaching their communities. Water treatment systems invite population growth but population growth also includes negative externalities such as greater amounts of wastewater discharges. As Metropolitan Atlanta’s population and water use escalated, distressed citizens below Atlanta who also relied on ACF water supplies objected to the amount of raw pollution that the Chattahoochee River was forced to absorb before it arrived at their water system intakes.

As explained in the previous chapter, these complaints were not lost on federal and state pollution environmental agencies that were attempting to establish stricter water quality standards following passage of the Water Quality Act of 1965. Therefore, when U.S. Department of Health, Education, and Welfare declared that wastewater treatment facilities (WWTFs) in Metropolitan Atlanta were largely responsible for the gross pollution of the Chattahoochee for nearly 100 miles below Atlanta, the EPA and SWQCB

⁴ The ACF River Basin system, which drains about 19,800 square miles in western Georgia, eastern Alabama, and the Florida panhandle, originates in Georgia’s Blue Ridge Mountains. From there it flows through Buford Dam and Atlanta as the Chattahoochee River before merging with the Flint River above the Georgia-Florida state border to become the Apalachicola River. The Apalachicola River continues south through the Florida panhandle into Apalachicola Bay, which discharges into the Gulf of Mexico. Department of the Interior, U.S. Geological Survey, “The Apalachicola-Chattahoochee-Flint (ACF) River National Water Quality Assessment (NAWQA) Program Study,” (March 2010), <http://ga.water.usgs.gov/nawqa/> (accessed April 11, 2010).

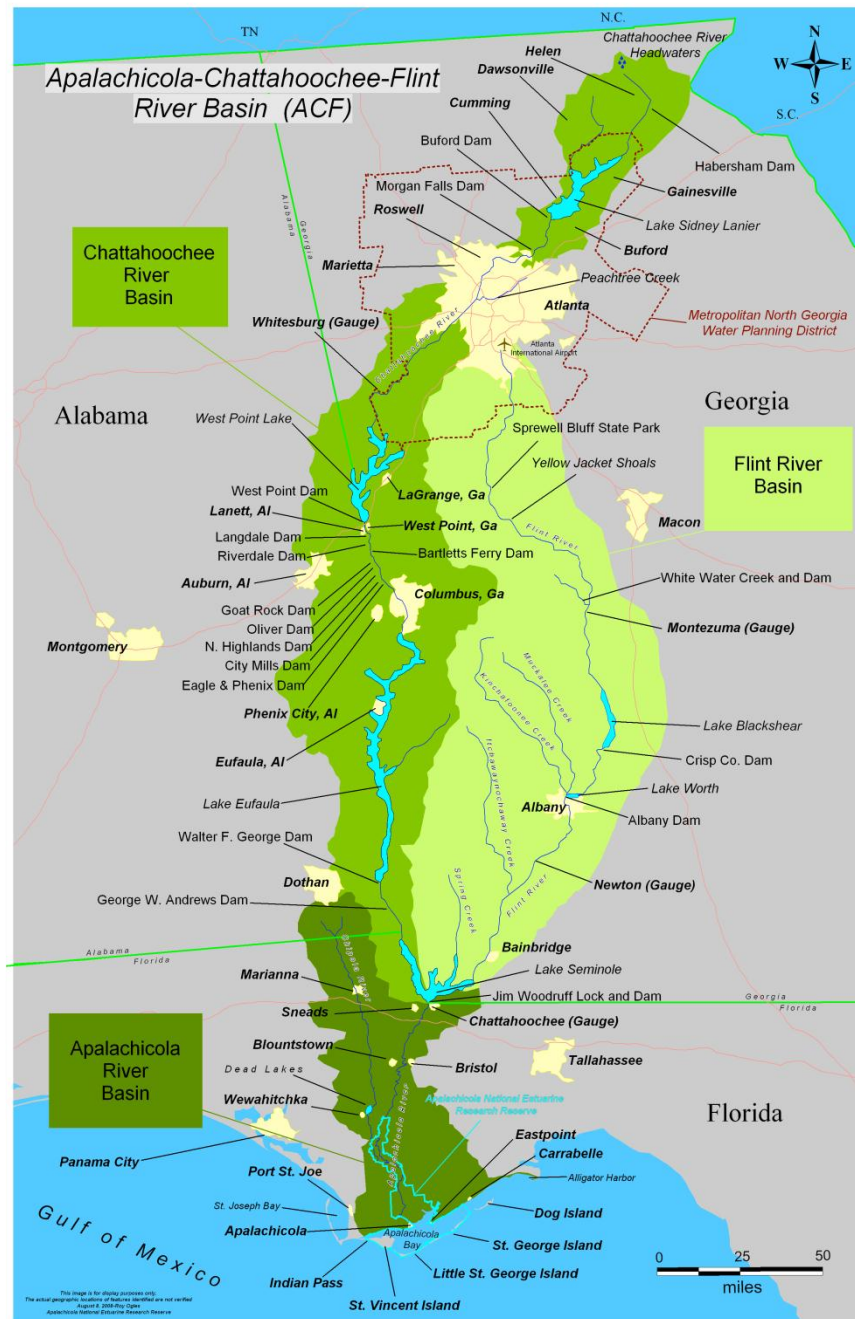


Figure 5.1—Apalachicola-Chattahoochee-Flint River Basin.
 (Source: <http://thirdcoastconnect.wordpress.com/2011/02/20/the-water-war/>)

began efforts to force the City of Atlanta to upgrade its WWTFs to the level of secondary treatment in order to reduce the amount of biological contaminants it discharged into the river.

Water quantity proved to be an equally troublesome and protracted issue. Unlike in the case of water pollution, aggrieved downstream water users initially directed their ire not at Metropolitan Atlanta but rather on the perceived negligence of the Army Corps of Engineers. Barging interests in southern Georgia and Alabama, represented by the Tri-State Development Association, argued in 1971 that commerce along the river was hampered because the Corps had failed to release the necessary water to secure a promised nine-foot navigation channel between Columbus, Georgia and the Gulf of Mexico. After several years of remonstrations by local business leaders that the Corps had ignored its downstream duties in favor of satisfying Atlanta's thirst, the Corps responded by proposing a re-regulation dam in central Florida to allow for the channel to be operational at least ninety-five percent of the year.⁵

Floridians were less sanguine about the prospect of another dam along the ACF, however. In 1974 representatives from Florida's Pollution Control Board, its Game and Fresh Water Fish Commission, and Department of Commerce joined the Audubon Club and numerous civic associations in opposing the Corps' plan on economic and environmental grounds. These groups insisted that while an additional dam or dredging would benefit southern Georgia and Alabama, the increased levels of fresh water caused by any structural modifications would destroy Apalachicola Bay's delicate ecosystem—one of the nation's largest nurseries for oysters and other seafood—as well as the

⁵ Willoughby, *Flowing Through Time*: 182; ARMPC, *Atlanta Region Comprehensive Plan*, 10.

livelihoods that depended on the estuary. Intent in preventing further development, the state of Florida officially entered into the fray and petitioned the National Oceanic and Atmospheric Administration (NOAA) in 1979 to designate the area as a national estuarine sanctuary (NES). It would not be the last time Florida would reach for unexpected environmental law in an attempt to stop river development that it considered anathema to its own interests.

The Georgia and Alabama legislatures, who regarded Florida's use of the NES program as subversive to their own interests, quickly maneuvered to hamstring the "Sunshine State" from further engaging in supposed delaying tactics. In 1979 Georgia and Alabama legislators respectively approved resolutions for establishing the "Tri-Rivers Waterway Compact," which would specifically allow any two states bordering the ACF system to join the compact and bind the third from taking unwanted actions with regard to the river basin. Georgia governor George Busbee vetoed his state's resolution, however, because he was both skeptical of the compact's constitutionality and certain that such an arrangement, even if legal, would hamper any future compromises over water use. In the end, fears regarding the NES application turned out to be overblown. When the NOAA granted Apalachicola Bay NES status later that year, it attached a federal Environmental Impact Statement which stipulated that "the establishment of the estuarine sanctuary itself cannot prevent the continued operation, maintenance, or enhancement of a Congressional authorized project." In addition, the governors of the three states agreed that further studies of ACF Basin management strategies would be conducted with the Corps of Engineers as future needs dictated. Thus, a temporary cease-fire was declared over water allocation on the lower ACF as the proposed re-regulation

was discarded. But the Corps was allowed to continue maintenance dredging of the Apalachicola River as long as it complied with water quality certificates issued by the state of Florida.⁶

Independent of the brewing water war down south, planners with the Atlanta Regional Commission (ARC) continued to work actively with federal agencies and state and local governments to create plans and policies for managing Metropolitan Atlanta's water supplies. In 1973, they began participating with the Army Corps of Engineers, the DNR, its sub-unit the Environmental Protection Division (EPD), the Georgia Mountains Area Planning and Development Commission, and the EPA in the Metropolitan Atlanta Water Resources Management Study (MAWRS). This program of action, authorized by the U.S. Senate Public Works Committee in 1972, was to be a comprehensive study in which the participants were to examine the long-term wastewater management, water supply, water-based recreation, fish and wildlife conservation, and flood control problems and needs in the Atlanta region.⁷

⁶ Ibid, 182-184, Florida Department of Environmental Protection, Apalachicola National Estuarine Research Reserve Information Page, <http://www.dep.state.fl.us/coastal/sites/apalachicola/info.htm> (accessed June 2, 2011); U.S. Army Corps of Engineers, "Information Paper: Navigation on the Apalachicola" n.d.; <http://www.sam.usace.army.mil/webdoc/apalachicola.pdf> (accessed July 7 2011); U.S. Water Resources Council, "Proposal to Study the Apalachicola-Chattahoochee-Flint River Basin Study," (Washington D.C., 1980) Section III, Unit A: Documentation of Need for Study, EPD, Director's Subject Files-1976-1983, RCB 7933, Box 40, File 5, Georgia Archives. In 1983, for example, Alabama, Georgia, Florida, and the Corps entered into a "Memorandum of Agreement" whereby all three states supported the relocation of rock shoals in the upper Apalachicola River as proposed by the Corps in 1981. Further, all parties agreed to continue to conduct studies regarding a long-range water budget and management strategy for the ACF River Basin. "Memorandum of Agreement Among Alabama, Georgia, Florida, and the United States Army Corps of Engineers, Mobile District Regarding the Apalachicola-Chattahoochee-Flint River System" (24 June 1983), 1-5, EPD, Director's Subject Files-1976-1983, RCB 7933, Box 40, File 4, Georgia Archives.

⁷ Paul Kelman to Harris Goldwasser, 4 November, 1983, EPD, Director's Subject Files, RCB 19095, Box 5, Georgia Archives; ARC, *Atlanta Regional Water Supply Plan* (Atlanta, January 1989), 1 [hereafter cited as 1988 WSP]; ARC, *Evaluation: Final Wastewater Management and Water Supply Alternatives* (Atlanta, 1976), 1 [hereafter cited as *Evaluation*].

In 1974 the EPD provided a baseline for all future water supply plans by establishing a policy that the flow of the Chattahoochee River at a point between the AWW intake and the river's confluence with Peachtree Creek should not fall below 750 c.f.s, or 484 MGD. This minimum flow requirement was created so that there would be sufficient assimilative capacity in the river for treated wastewater discharges, combined sewer overflows, and urban runoff to meet state water quality control standards. This policy also prohibited the EPD from issuing permits for water supply withdrawals from the Chattahoochee River unless there was an assurance from the Army Corps of Engineers that an additional quantity of water, equal to the withdrawal increase, would be released from Buford Dam.⁸

The implementation of maximum daily withdrawal limits of 222.4 MGD from the Chattahoochee River was sobering news for those concerned with Atlanta's future growth.⁹ The 1960 agreement between the City of Atlanta and Georgia Power for modifications to Morgan Falls Dam, for example, had only assured 750 c.f.s. *above* the AWW's intake, whereas the EPD's new policy now required 750 c.f.s *below* the intake. At the time the policy was issued, moreover, both the AWW and DeKalb County had

⁸ Environmental Protection Division, "Lake Sidney Lanier Project Review: Statement of Environmental Protection Division Public Meeting" July 17, 1974, EPD, Director's Subject Files, RCB 25122, Box 2, Georgia Archives; ARC, 1976 *WSP*, 7-8.

⁹ The EPD determined that 750 c.f.s was the minimum flow needed for creating acceptable concentrations of dissolved oxygen and residential oxygen demanding materials below the AWW water intake at Peachtree Creek. The maximum daily withdrawal limits were the difference between the minimum flow and the Chattahoochee River's dependable yield, which was the flow guaranteed to reach the Atlanta intake as per the operation of Buford Dam and Morgan Falls Dam. River flow at the Atlanta gauging station exceeded 914 c.f.s. ninety-nine percent of the time (conversely, 914 c.f.s. was the lowest flow of the river for seven consecutive days during a ten year period). The EPD established 164 c.f.s. (106 MGD) as the City of Atlanta's maximum withdrawal limit, which was approximately five percent less than the AWW's total treatment capacity. This calculation was then applied to upstream users, effectively locking their withdrawals into place- Cobb County (25.2 MGD); DeKalb County (80.4 MGD); Gwinnett County (10.8 MGD). *Ibid*, 2.

permit applications on file with the state agency to construct new water supply intakes on the Chattahoochee River between Buford Dam and Morgan Falls Dam. The EPD simply denied the permits until assurances that the 750 c.s.f requirement would not be violated.

The EPD's effective withdrawal limits from the river posed a major problem for regional planners. Metropolitan Atlanta's population was growing, just as mid-century officials had desired, and its total water consumption was growing with it. By the mid-1970s, the seven-county metropolitan population had swelled to roughly 1.7 million people, nearly double that of 1950. Water consumption during the period was equally dramatic. By 1975, the region's total water demands reached 253 MGD during peak summer months. In addition, regional gallons per capita per day (gpcpd) jumped from 100 MGD to 143 MGD in the twenty-five years since the end of the War based on the combination of industrial and commercial growth and new home construction, the latter of which included greater water use by household utilities and heavier sprinkling loads.¹⁰ In the City of Atlanta alone, where the cost of the AWW's water service was about 1 cent per barrel, gpcpd had skyrocketed to 168 MGD! With water producers boasting as late as 1969 that "the average family may use 200 gallons of water each day and still have a minimum charge of \$1.57 per month," there is little mystery as to why water usage increased as it did.¹¹

¹⁰ AWW annual records do not indicate the distribution between domestic, commercial, and industrial water use. In 1969, however, the ARC noted that the Atlanta region did not have many "heavy industries" i.e., chemical petroleum, steel, because the region lacked the necessary water resources. As a result, Metropolitan Atlanta developed into a distribution and finance center that was supplemented by a "large amount of light and assembly type manufacturing." ARC, *Water and Sewer Plan* (1969), 7; The ARC water use figures for 1975 show: residential (130 MGD); commercial (48 MGD); Industrial (34). ARC *1976 Evaluation*, Table 3.

¹¹ Metropolitan demands were satisfied by direct withdrawals from the Chattahoochee River, its tributaries, Lake Lanier and Lake Allatoona, an impoundment of the Etowah River constructed by the Corps in 1950

ARC population forecasts in 1976, moreover, suggested that the water supply situation would become more serious over the next twenty-five years. According to planner's estimates, regional population was expected to reach 3.5 million in the year 2000 with peak water demands in excess of 700 MGD. Even worse was their prediction that the existing water sources and system of allocation would be inadequate to meet the region's peak demands as early as the mid-to late 1980s.

With this in mind, the ARC began to offer numerous alternatives to increase the availability of supplies. These options included the dredging of Morgan Falls Dam to achieve a greater degree of storage capacity as well as the construction by water providers of high-rate pumps combined with off-stream storage. The ARC also fully endorsed local implementation of conservation measures such as stricter plumbing codes for water-saving appliances, recycling of water for non-potable purposes, and the alteration of water rate structure.

Significantly, the ARC also recommended two possible alternatives for optimal management of the Chattahoochee River that would frame future discussions about water use in Metropolitan Atlanta. First, it proposed the construction of a re-regulation dam at a point several miles downstream from Buford Dam. Such a structure, the ARC maintained, would serve the same function as Morgan Falls Dam but would regulate flows upstream from where most local governments would locate future water intakes.

on the Alabama-Coosa-Tallapoosa Basin that provided approximately half of Cobb County's water. For population changes see, Ibid, 8;MPC, *U.S. Census of Population: 1950*, 11-9-11-17. ARMPC, *An Inventory of Water and Sewer Systems*, 3; ARC, *1976 Evaluation*, Table 3; City of Atlanta, Department of Water Works, "Proposed Water Improvements to Provide Adequate Water Service for a Growing Atlanta: 1966-1971 and Projected Long-Range Program" (April 1966), no pagination, Public Health, Water Quality Control Board, Wastewater Treatment Facility Engineering Reports, 1935-1970, RCB 38049, Box 1, Georgia Archives; City of Atlanta, Department of Water Works "The Story of Atlanta's Water Service" (1969), no pagination.

Second, the ARC opined that smooth, continuous flows could be arranged for Atlanta “if peak power releases from Buford Dam were eliminated.” While this option would require water supply beneficiaries to compensate the Southeastern Power Administration (a unit within the Department of Interior whose function it is to market hydroelectric power generated from Corps’ projects) for losses of power generation, the regional planners argued that it would also preclude the need for re-regulation and allow the “Atlanta Region to continue to grow and prosper.”¹²

WATER RESOURCE MANAGEMENT THROUGH RE-REGULATION AND REALLOCATION, 1975-1989

Although water supply was included in the purview of the federally-authorized MAWRS, the ARC understood well that there was “no legislative handle available” to local policymakers “to persuade the Corps of Engineers to release water differently from the present system of releases.” The paramount question then for Atlanta officials was whether the federal government would recognize water supply as a significant function of Buford Dam. “Over the past 20 years,” the regional planners argued, “the uses of the lakes have varied to the point that the two unauthorized uses—water supply and recreation—appear to be at least as important as the authorized ones.” Furthermore, they rhetorically asked “is power generation more important than recreation? Is recreation more important than water supply?” Accordingly, the ARC firmly insisted that Congress

¹² ARC, 1976 *WSP*, 14-16, 19. In 1978 the ARC adopted refined water conservation policies to further promote and specify the possibilities of water conservation in the region. These policies included plumbing code revisions, water rate structures, emergency water conservation plans and public education. Later that year the Georgia General Assembly passed legislation requiring that after July 1, 1980. All plumbing appliances used in new construction or in the renovation and repair or addition to any existing building must be water-conserving. ARC, 1988 *WSP*, 7.

must re-examine the original purposes of the federal projects and revise them in light of newly existing but competing water demands.¹³

The Army Corps of Engineers' response to the EPD's restrictions indicate that the Corps had in fact come to consider water supply, water quality, and recreation to be among Buford Dam's basic purposes. According to the Corps, these functions were authorized by the 1958 Water Supply Act, 1948 Pollution Control Act amendments, and Section 4 of the 1944 Flood Control Act, respectively. Moreover, the Corps asserted that "no further Congressional action is required to authorize these three functions as full project purposes" but that "any future changes in project operation must fully consider impacts and needs of all six project purposes . . .and any significant changes would require reconsideration of cost sharing requirements for the total project."¹⁴

Consistent with this line of reasoning, the Corps issued an "Interim Plan" as a component to the MAWRS in 1975 that offered the possibility of meeting additional water supply needs without violating the minimum flow requirements. Under the plan, the Corps agreed to guarantee minimum flows sufficient to meet water withdrawal levels of 327 MGD plus 484 MGD for waste assimilation during peak summer months. Sufficient water supplies would be accomplished through additional water releases from Buford Dam on weekends (peak water using days) and continued re-regulation through Morgan Falls Dam. This arrangement required Georgia Power Company's approval, however, because these off-peak, weekend releases entailed a loss of power revenues to

¹³ ARC, 1976 *Evaluation*, 16-17.

¹⁴ Department of the Army, South Atlantic Division, Army Corps of Engineers, "Notice of Completion of Interim Report on Metropolitan Atlanta Area Water Resources Study" (21 May 1979), 2, EPD, Director's Subject Files-1976-1983, RCB 7933, Box 40, File 5, Georgia Archives.

the local energy provider. Fortunately, after negotiations with the Southeastern Power Administration, Georgia Power agreed to manage the releases until January 1983, when it was believed that a long-range water plan could be implemented.¹⁵

Furthermore, in 1981 the Corps echoed ARC suggestions when it published a feasibility report that recommended building a re-regulation dam 6.3 miles below Buford Dam. In addition to simply being more economical than raising the level of Lake Lanier or dredging Morgan Falls reservoir, the Corps of Engineers argued that constructing the 2.7 billion gallon reservoir offered other tangible benefits. First, it would provide higher weekend releases that would allow for growth in river withdrawal amounts. Second, a second re-regulation dam would allow the water otherwise passing through Buford Dam on a continuous basis to be used for peak power generation.¹⁶

Although Atlanta's metropolitan leaders and representatives from the DNR and EPD rallied around the goal of re-regulation, winning the approval of the federal policymakers and upstream environmental and recreational groups for constructing the dam proved more difficult. In November 1984, re-regulation supporters received their first setback when President Reagan's Office of Management and Budget (OMB) refused

¹⁵ 1976 *WSP*, 13-18; ARC, 1983 *WSP*, 8-9; Because of its limited ability to store water, Morgan Falls can only use excess inflows to generate when the flow from Buford Dam becomes available, rather than when it is needed the most to meet peak power demands. Georgia Power has been re-regulating Buford Dam flows for downstream users since 1960, initially through an agreement with the City of Atlanta. This agreement was replaced in 1986 by an agreement between Georgia Power and the ARC. With each revision of the agreement, Georgia Power has agreed to higher flow releases from Morgan Falls. Thus, Morgan Falls re-regulation has assumed a greater role in meeting the water needs for metro Atlanta. Georgia Power Company, "Morgan Falls Hydro: An Operations Primer" (2003) <http://www.georgiapower.com/lakes/hydro/pdfs/OperationsPrimer.pdf> (accessed July 13, 2011).

¹⁶ ARC, 1988 *WSP*, 11; Edmund B. Burkett, "Reallocation of Water Storage in Lake Lanier," *Proceedings of the 1991 Georgia Water Resources Conference*, Institute of Natural Resources, The University of Georgia, Athens, Georgia, (1991), 1.

to extend federal support. Citing budget constraints and a general Reagan administration policy of referring all water projects back to local levels, the OMB stated “the plan . . . appears to be a desirable project that would go a long way toward meeting supply demand in the Atlanta area. However . . . non-federal development of the same reregulating dam [is] the most likely alternative to a Federal project for water supply.”¹⁷

But it was at the local level where the dam encountered its most intransigent opposition. Organizations such as the Georgia Conservancy, the Sierra Club, Georgia Wildlife Federation, and Trout Unlimited threatened lawsuits if construction moved forward. Objections to the dam were numerous. Some groups believed that dam construction would exceed the estimated \$25 million while others expressed doubt about the environment and recreational opportunities the impoundment was to create. Some opponents worried about the possible effects on the Chattahoochee River’s population of recently stocked trout as stagnant water in the newly created reservoir might raise temperature levels, reduce oxygen content, and ultimately lead to fish kills. Others insisted that the fluctuating water levels would eliminate much of the weekend tubing and sporting activities as well as cause undesirable mud flats to build up during low water levels. Still other activists, like Robert Kerr, executive director of the Georgia Conservancy, suggested that the level of Lake Lanier could be raised by about one foot and the regulation of its water adjusted accordingly to prevent the area from being robbed of six miles of lush Chattahoochee shoreline.¹⁸

¹⁷ OMB quote used and cited in Phase I Ruling, 43.

¹⁸ “U.S. Denies Funds for New Chattahoochee Dam,” *AJC*, 12 February 1985; “Atlanta’s Water Future,” *AJC*, 21 December 1986.

Despite these criticisms, support for the dam grew in the spring and summer of 1986 when North Georgia suffered from the least amount of rainfall in 100 years. Several metropolitan governments began imposing water use restrictions as local surface streams diminished and reservoir levels dropped precipitously. In July 1986, the City of Atlanta implemented its first ever outdoor watering restrictions, even though its large water system, which sucked up to 170 MGD, was capable of meeting the drought-induced demand. In fact, the AWW's huge capacity allowed the city to nearly double its wholesale water sales to outlying counties for a few weeks during the summer months. And, for a time the city actually served as Fayette County's sole water source, while county water providers there drilled wells to tap underground sources. Adding fuel to the fire was ARC predictions that local demand would rise from the current level of 327 MGD to average demands of 515 MGD and peak demands of nearly 600 MGD by 2010 on account of an expected population of 3.58 million. At that time, the ARC warned, not much more water would be available unless the flow of the river was increased.¹⁹

Those clay-cracked days of 1986 not only generated greater backing for the dam, but they also prompted spirited debates about what a future Atlanta might look like in the absence of better water resource management. For many the question boiled down to whether Atlanta would experience slow growth or no growth at all. Although dam critics continued to voice their concerns, their opposition was largely crowded out by the chorus of support for dam construction and dire warnings of inaction. ARC environmental planner Pat Steven suggested that if the dam was not built then the state would not issue permits necessary to meet future demands, which would result in moratoriums on

¹⁹ "Support for Dam Growing as Water Needs Increase," *AJC*, 2 May 1986; "The Drought of 1986," *AJC*, 20 July 1986; Atlanta's Water Future," *AJC*, 21 December 1986.

additional water hookups and year-round restrictions on water use. DNR commissioner Leonard Ledbetter added that construction moratoriums on office parks and shopping centers would be necessary within ten years unless improvements were made in the supply system: “It’s a very serious matter. If we are going to grow and have the quality of life we want, we’ve got to have the resources out there to manage the water on an as-needed basis.” To Bennett Brown, chairman of the Metro Atlanta Chamber of Commerce, overcoming the short-supplies of water required imagination and resolve. “What kind of city do we want to be? What do we want this city to be like when we step into the new century?” he asked before then stating, “we won’t just dream and talk about how wonderful it will be to have an abundance of fresh water on tap for this city. We will do the studies, seek the funding and get the work done on the re-regulation dam on the Chattahoochee River.”²⁰

In the summer of 1986, the Corps assuaged local fears with their announcement of a “Short-Term Plan Water Supply Plan” (STP) to meet Metropolitan Atlanta’s needs until at least 1990. Developed as a stop-gap measure that could suffice until a long-range solution was decided, the Corps’ STP provided the framework to enable an additional 50 MGD to be permitted for withdrawal from the river (up to 377) by eliminating weekend restrictions. STS implementation required the modification of Morgan Falls Dam and Buford Dam operations at the expense of power generation. Contracts were negotiated between the ARC, the Corps, the Georgia Power Company, the Gwinnett County Water and Sewage Authority, Fulton County, DeKalb County, the Cobb County-Marietta Water

²⁰ “Support for Dam Growing as Water Needs Increase,” *AJC*, 2 May 1986; “Water Crisis Could Block Construction,” *AJC*, 22 May 1986; “2 Visions of Future for Atlanta,” *AJC*, 11 December 1986.

Authority and the City of Atlanta whereby costs for special releases were charges at \$5.79 per million gallons by the Corps of Engineers. Georgia Power agreed to provide services to the community at no charge with the understanding that the STP plan would be a temporary measure until the re-regulation dam could be constructed.²¹

In November 1986, the re-regulation dam was authorized in the Federal Water Resources Act with conditions that environmental concerns and economic issues be evaluated in more detail prior to construction approval. But after two years of further review, the Army Corps of Engineers abruptly changed course in early 1988 by suggesting that the \$36 million re-regulation dam was possibly unnecessary. In September 1988, the Corps instead officially recommended the reallocation of storage in Lake Lanier from hydro-electric power to water supply as a potentially more efficient means to deliver water to Metropolitan Atlanta. Although the Corps acknowledged that “. . . both the reregulation dam alternative and the reallocation alternative would meet Atlanta’s water supply needs and are economically feasible,” it listed a number of reasons why it embraced the latter option. The Corps estimated that the cost of the re-regulation dam had risen to \$36 million, an increase of 60 percent since its 1981 projections, as a result of the inflated costs of purchasing land and the potential of fighting lawsuits. Reimbursement of power lost through reallocation would cost only slightly more, an estimated \$40 to \$50 million. Reallocation would be speedier than constructing a new dam, would save almost seven miles of the Chattahoochee River and approximately 600 acres of land from inundation, and would stimulate Lake Lanier’s recreation economy by keeping the lake at a higher level. Finally, reallocation could supply the region’s water

²¹ ARC, 1983 *WSP*, 8-9; ARC 1988 *WSP*, 9-10.

needs until 2015, whereas re-regulation was expected to meet water demand only through 2010.²²

Reaction to the announcement was decidedly mixed. Many local officials uttered resentment over the Corps reversal and questioned its credibility. As DeKalb County Chief Executive Officer Manuel Maloof explained, “The Corps of Engineers led us down a primrose path and we bought—hook, line, and sinker—what they told us. For [supporting the re-regulation dam], we just got kicked to the scaffold. I had taken a lot of abuse for this.”²³ Others like Representative Ed Jenkins stated that he was “at a loss to understand why they [the Corps] couldn’t come up with this before now.”²⁴ But as revised ARC estimates predicted that peak summer demand, for which all water systems must be equipped, would increase from 592 MGD in 1990 to 844 MGD in 2010, area leaders ultimately got over disappointment at having to eat crow for their long-standing support of re-regulation. In a show of solidarity for the reallocation plan, metro governments in September 1989 pledged to cover the full \$62.5 million that was now needed to reimburse the Southeastern Power Administration for the value of hydropower that would be lost through reallocation.²⁵

²² The Corps also recommended that storage in Lake Allatoona also be reallocated for purposes of water supply. Burkett, “Reallocation of Water Storage in Lake Lanier,” 1-3; “Corps Reverses Itself, No Longer Supports Rereg Dam,” *AJC*, 2 September 1988; “Finally, Corps Offers Choices,” *AJC*, 7 September 1988.

²³ “Credibility of Corps Questioned: Reversal on Rereg Dam Angers Metro Officials” *AJC*, 3 September 1988.

²⁴ “Corps’ Report to Congress Confirms Hopes for Rereg Dam are Dim,” *AJC*, 6 June 1988.

²⁵ “Need for Water Will Rise by 40% by 2010, ARC Says,” *AJC*, 24 March, 1988; “Corps Reverses Itself, No Longer Supports Rereg Dam,” *AJC*, 2 September 1988; ARC, 1988 *WSP*, 33; According to the negotiations between the Southeastern Power Administration, the ARC, and local water providers, each jurisdiction would receive varying shares of the reserve capacity based on population projects through 2010. The estimated cost to each jurisdiction was to be: City of Atlanta-\$19.43 million; Gwinnett County – \$13.92 million; DeKalb County – \$11.86 million; Cobb County – \$9.46 million; Fulton – \$3.81 million,

The Corps' 1989 plan to reassign 207,000 acre-feet of water from power generation for use by metro Atlanta generated a wave of protest among downstream water users in Alabama and Florida. With the extended droughts of 1986 and 1988 still fresh in their minds, barge operators, government and industry leaders, and homeowners in south Alabama charged that hoarding the Chattahoochee's water in Lake Lanier would create low-flow conditions, especially during dry spells, which would halt barge traffic on the river system. Others claimed that increased withdrawals would also lead to increased pollution downstream. This belief was based on EPD studies that indicated that, during critical low stream-flow conditions, there were approximately 6.4 c.f.s of river flow for every c.f.s. of wastewater discharged below Atlanta but that ratios of flow to pollution could be as high as 1:1 by the year 2000 if treatment techniques did not keep pace with withdrawal amounts.²⁶ Floridians, in contrast, continued to express concerns about the potential demise of the Apalachicola Bay and the loss of its sizable oyster-harvesting industry, which supplied one in every seven oysters consumed in the United States each year. Atlanta's plan to take 529 MGD—at least 50 percent more than what was currently withdrawing—would both increase salinity and deprive the Bay of the fresh water oysters needs to survive, they argued.²⁷

remaining jurisdictions - \$4.86 million. See "Lanier Drinking Water Plan Draws Support," *AJC*, 23 September 1989.

²⁶ EPD, "Lake Sidney Lanier Project Review," 5.

²⁷ Residents of Lake Lanier communities also complained bitterly about the decrease in tourism profits and land values as well as the potential for increased pollution that would stem from the Corps' re-allocation plans. By the Corps' own estimates the new plan would result in 151,000 fewer annual visits to the lake and a loss of nearly \$600,000 to the economy. Supporters of reallocation responded, however, that damages to the Lake Lanier tourist economy were minimal when compared to the effects of inaction in the lower metropolitan area. Atlanta officials estimated, for example, that the metropolitan area would lose nearly 700,000 new jobs and 800,000 new residents over the next two decades if a federal plan to draw more water from the lake was not put in place. With regard to the loss of tourism and sporting activities that Lake

Although Corps and Georgia officials insisted that increases in urban water withdrawals would have negligible economic or environmental effects downstream from Atlanta because the Three Rivers project had ensured that most of the water would be returned to the Chattahoochee River, many in Alabama and Florida were not convinced.²⁸ Instead, they urged that Georgia's reallocation plans be postponed until a complete assessment of lower ACF Basin needs could be completed. "A lot of the potential impacts of reallocation on navigation, downstream water supply and fish and wildlife have not been addressed . . ." argued Walter Stephenson, head of planning for the Alabama Department of Economics and Community Affairs. "It will take months for us to review all of the information and come up with a final answer." Thus, by the end of 1989 the stage was set for a major confrontation between the three states over how ACF waters would be allocated.²⁹

Lanier's residents might suffer, Corps' official Ken Sims summed up the supporters basic premise: "We think it's a very minor impact on recreation in return for what you're getting, and that's water. You need water to grow." For examples of these localized debates, see, "Corps Gird for Hearings on River Use," *AJC*, 15 November 1989; "Official: Regional Will Lose People Without More Water," *AJC*, 16 November 1989; For opposition arising in Alabama and Florida, see *Apalachicola's Industry Threatened*, *AJC*, 26 November 1988; "Water Wars Take Shape Between Ga., Neighbors," *AJC*, 27 November 1989.

²⁸ According to a 1990 USGS study, 78 percent of the water withdrawn for off-stream uses was returned to surface and ground-water sources. The remainder was either consumed (17 percent) or transported out of the basin (5 percent). Richard L. Marella, Julia L. Fanning, and Will S. Mooty. *Estimated Use Of Water in the Apalachicola-Chattahoochee-Flint River basin during 1990 with State Summaries from 1970 to 1990*. (USGS Water-Resources Investigation Report 93-4084 (Tallahassee, FL: 1990), 40

²⁹ *Ibid.*

THE POLITICS OF WATER ALLOCATION: THE TRI-STATE WATER WAR, 1990-1998

In June 1990, after Georgia governor Joe Frank Harris suggested that his state might oppose plans by an Alabama nuclear power plant and a paper mill to withdraw more water from the Chattahoochee River, Alabama filed suit (Alabama Case) in federal court against the U.S. Army Corps of Engineers. Alabama sought an injunction to prevent the implementation of Atlanta's withdrawal plan. Shortly thereafter, Florida joined the suit to protect its own interest in maintaining the flows of the Chattahoochee, while Georgia and the ARC sought intervention as defendants on the side of the Corps.

Alabama and Florida officials claimed that the Corps' plan to reallocate an additional 529 MGD for metro Atlanta threatened the water supply necessary to ensure their own expected growth. Specifically, Alabama claimed that such drastic water withdrawal upstream would curtail "badly needed economic development" throughout southeast Alabama; it needed the river flow primarily for farming, industry, hydropower, and barge navigation. Florida claimed that the additional withdrawals upstream would disrupt the natural flow and cause significant damage to its multi-million dollar seafood and oyster industry. Additionally, Florida was concerned about losing the water source it needed for the potential future residential or commercial development of thousands of acres of pulp wood forests in the panhandle. Both plaintiffs based their legal action on the grounds that the Corps did not properly assess, as required by the National Environmental Protection Act (NEPA), the environmental impacts of water withdrawals from Lake

Lanier before it entered into contracts with water supply providers from Metropolitan Atlanta.³⁰

The National Environmental Policy Act, which was signed into law by President Richard Nixon on January 1, 1970, is an oversight mechanism that applies to all U.S. federal agencies and is supposed to apply to every agency action that significantly affects environmental quality. Its immediate purpose is to give federal agencies the statutory requirement and power to consider how their actions affect the natural environment and incorporate mitigating efforts through open public meetings and other avenues for comment. Although generally considered one of the most important pieces of environmental legislation ever enacted, it is also mired in controversy over the way in which it can be implemented. As Congressman James Hansen once observed, if the [current presidential] administration decides it wants a project to go forward, it greases the process. If the administration decides it doesn't like a project, it crushed the project with paperwork—a paralysis of analysis that can take years and years and millions of dollars.”³¹

Understood in the context of Hansen's assessment of NEPA implementation, Alabama and Florida's focus on the Corps' failure to follow NEPA's procedural requirements demonstrate an inventive attempt to use federal environmental law to bury

³⁰ Stephen E. O'Day, Jessica Lee Reece, & Josie Krause Nackers, “Wars Between the States in the 21st Century: Water Law in an Era of Scarcity,” *Vermont Journal of Environmental Law* Vol. 10:2 (2009), 236-239; “The Shot Heard Round the Hooch,” *AJC*, 29, June, 1990; “Ala. Sues to Halt Diversion of Water From Two Rivers,” *AJC*, 29 June 1990; “Florida Seafood Workers Fear Being Left High, Dry in Water War,” *AJC*, 9 August 1991.

³¹ Matthew J. Lindstrom and Zachery A. Smith, *The National Environmental Policy Act: Judicial Misconstruction, Legislative Indifference, & Executive Neglect* (College Station: Texas A&M University Press, 2001), 4-5.

the Corps' reallocation plan. It also shows a keen understanding of court preferences for deciding environmental cases on the basis of law (did the Corps follow procedure) rather than on disputed fact (will re-allocation harm downstream communities), which usually deal with scientific and technical matters with which judges are not familiar.³²

The decision to pursue court action signified the increased complexity of determining water use rights between competing stakeholders in the eastern United States. Water law in the United States has developed along two very distinct paths. In the comparatively arid western states, water rights are based on the doctrine of prior appropriation. In the East, where surface water is considered more plentiful, riparianism has taken hold. Prior appropriation can be summarized as "first in time is first in right." Once a water user has acquired a water right under this doctrine, his or her right is superior to later-arising uses of the water, even during drought and at the expense of more socially beneficial uses. Typically, a prospective water user acquires the right from the state to withdraw and consume water. In determining whether to grant the water rights and the extent of those rights, the state can take into account and protect the public interest.³³

Riparianism starts with a very different assumption -- that water is available to all riparian and littoral property owners. The water laws of Alabama, Florida and Georgia are all based on riparian principles. Under this doctrine, which evolved from English common law, all uses, regardless of when they began, are allowed provided they do not

³² Ibid, 100-101.

³³ For a classic study of the political entanglements involved in California's reliance on the prior appropriation doctrine, see William L. Kahl, *Water and Power* (Berkeley: University of California Press, 1982). See also, Donald J. Pisani, *Water and American Government: The Reclamation Bureau, National Water Policy, and the West, 1902-1935* (Berkeley: University of California Press, 2002).

unreasonably interfere with other uses. The state does not determine whether a particular use is "reasonable"; instead, reasonableness is a question of fact that must be resolved through judicial review. This system takes full advantage of the benefits of water resources and serves well when water is plentiful. As water resources become scarce, however, the deficiencies of riparianism are exposed. Uses that are reasonable in normal years may appear excessive in dry years. This shifting standard vitiates the certainty necessary for almost every modern productive water use. The State of Georgia has attempted to address this problem by grafting a quasi-appropriation "permit" system onto the existing riparian framework. It did this through its 1977 statute requiring all new withdrawals of more than 100,000 gallons per day to obtain a permit from the state. Regulations implementing the program establish a hierarchy of uses—which gives preference, for example, to riparian landholders over non-riparian landholders—and allows the State of Georgia to maintain control over water consumption within the state in a fashion similar to the prior appropriation arrangement in western states. However, the state reserves the right to require adjustments to permitted water withdrawals during droughts. Moreover, historic riparian rights are still in place. The emerging “tri-state water war” demonstrated the tension between the hybrid approach of the permit system and riparian rights and how difficult it can be to resolve competing water demand among sovereign states.³⁴

According to legal scholar Jonathan Watts Hull, the states of Alabama, Georgia, and Florida had three settlement options available to them: legislative or congressional

³⁴ Steven T. Miano and Michael E. Crane, “Eastern Water Law: Historical Perspectives and Emerging Trends,” *National Resources & Environment* 18 (2003), 14; C. Grady Moore, “Water Wars: Interstate Water Allocation in the Southeast,” *National Resources & Environment* 14 (1999).

apportionment; judicial apportionment; and interstate compacts. Although on occasion Congress or the Supreme Court has been called upon to resolve these disputes, an interstate compact is the preferred method of resolution. Compacts are more popular than judicial and legislative apportionment solutions because the latter are often based on incorrect or incomplete information. Further, courts and legislative bodies often lack the technical knowledge and ability to gather and incorporate all the information needed for an allocation decision.³⁵

Shortly after the litigation was filed by Alabama, representatives of Alabama, Georgia, Florida, and the Corps began discussions seeking to resolve the conflicts. There was general agreement among the parties that litigation was the least desirable option of resolving the water resource conflicts. The State of Alabama and the Army Corps of Engineers requested the federal court stay the litigation while negotiations were pursued; the Court granted this request in September 1990. Furthermore, The U. S. Congress, aware of this regional disharmony, provided funding for the Corps to initiate a comprehensive water resources study to address the availability and anticipated long-term water needs as well as the potential ramifications of various water management options on multiple interests in ACF basin. After 18 months of dialogue and negotiations, on January 3, 1992, the Governors of the States of Alabama, Florida and Georgia and the Assistant Secretary of Army (Civil Works) signed a “Memorandum of Agreement”

³⁵Jonathan Watts Hull, “The War Over Water,” *Regional Resource* (Atlanta: Southern Legislative Conference, 2000), 4-6.

(MOA) committing to work together as equal partners through the Comprehensive Study process to seek resolution of water resource issues.³⁶

The signing of the MOA and initiation of the comprehensive study signaled the official beginning of a unique partnership approach among the three States and the Corps. The goal was to develop the technical and strategic information required to recommend a basin-wide management plan for the use of water resources. The study was designed to address four overarching issues: water resources demands, water resources availability, flood and drought management strategies, and coordination mechanisms. It was additionally to include analysis of data, estimated impacts, and demands over designated planning periods through 2050 and was to be completed by December 31, 1997.³⁷

As the study progressed, the states determined that the water resources issues should be resolved in the context of an interstate compact. During the 1996-1997 legislative session, in anticipation of the study's completion, all three states introduced to their state legislatures a bill for an interstate water compact that would create a committee made up of one representative from each state (appointed by the state's Governor) plus one federal representative (appointed by the President) to analyze the results of the comprehensive study and negotiate each state's allocation accordingly. The compact was approved by all three states and subsequently by the United States Congress and

³⁶ U.S. Army Corps of Engineers et al. *ACT/ACF Comprehensive Water Resources Study: Status Report, September 1995*, 3-4. Georgia Archives, 6652 Unit #1, File 5.

³⁷ *Ibid*, 4-6.

President Clinton in November 1997 and set to end with an agreement by December 31, 1998³⁸

The heart of the ACF compact was an agreement to negotiate an equitable apportionment of the surface waters in the basin. The compact did not, however, contain an allocation itself; rather, the compact established a mechanism (a Compact Commission), which could approve an allocation formula for the next fifty years through a unanimous decision. Not surprisingly, unanimity was hard to come by. The states began to bicker about principle for allocation and the methodology for arriving at a formula. Alabama and Florida maintained that consumptive uses should be defined and allowable limits on consumption should be set. In contrast, Georgia advocated state sovereignty, which argues against any external limits on consumption patterns, provided minimum state-line flows are delivered. The states also disagreed on how the negotiations should proceed. Alabama urged the states to adopt a framework for the allocation formula and proceed by establishing acceptable definitions. Georgia countered that the time pressures of the compact required the states to move straight to the heart of the major substantive issues -- reservoir releases and minimum river flows. According to Georgia, definitions and formalities could be worked out after the parties reached an agreement in principle. In an attempt to calm the uneasiness that metro Atlanta officials felt about the potentially negative ramifications of dealing with out-of-state parties, Georgia offered an allocation formula that suggested basing lake operations as if

³⁸ Hull, "The War Over Water," 2.

“drought were imminent.” This effectively meant that Lake Lanier would be kept full until drought conditions required releases to supplement river flow.³⁹

This was of course a more conservative approach than Florida and Alabama would have liked. Florida wanted assurances that it would receive a minimum flow only on very rare occasions and urged that the reservoir be operated as to mimic “natural flow regimes.” Alabama, on the other hand, argued that the federal reservoir should be operated as Alabama claims it was originally intended, with navigation rather than water supply as a primary purpose. Therefore, Alabama’s position was that the reservoirs must be operated as initially authorized and, that to the extent that such higher flows and reservoir releases are not preferable to Georgia, the latter state should be encouraged to build additional reservoirs to solve its water supply problems.⁴⁰

By December 1998, the three states had accepted a common document for the allocation agreement, and each state had issued a full proposal. Numerous issues remained unresolved, however, including whether to provide for: an interim allocation; compensation for adversely affected parties; verification and enforcement; and, basic reservoir operation questions. In addition, the states did not agree on how to represent water resources in their modeling efforts. With no agreement in sight, the states agreed to extend the compact deadline by another year with the understanding that litigation would resume if a consensus could not be reached.

³⁹ With regard to the ongoing negotiations between the states, Mayor Bill Campbell, for example, stated, “I don’t know if there is a viable solution with Alabama and Florida. I’m very queasy about the whole issue.” “Campbell Suspicious of Three-State Pact to Divide Chattahoochee’s Waters,” *AJC*, 24 September 1996; for Georgia’s allotment plan, see C. Grady Moore, “Water Wars: Interstate Water Allocation in the Southeast,” 8.

⁴⁰ *Ibid*, 8-9.

A quick review of the water usage of each state helps explain the acrimony. Alabama's main concern is that Georgia will grab most of the water, limiting Alabama's growth, especially in the southeastern region. Of the 183 MGD that Alabama withdraws from the Chattahoochee, 62 percent goes for hydropower, 29 percent for industry, 5 percent for drinking water, and 4 percent for agriculture. Alabama officials also want enough water for barge traffic on the lower Chattahoochee and are worried about water quality as metro Atlanta grows and dumps more wastes into the river.

Georgia was by far the greatest water consumer of the Apalachicola, Chattahoochee and Flint River basin, drawing an estimated 1.7 billion gallons per day. About 58 percent of that amount goes for power generation, 28 percent for drinking water, 10 percent for industry, and 4 percent for agriculture. Georgia's first priority was to ensure an adequate water supply for the next half-century for metro Atlanta and northwest Georgia. Its second priority: sufficient water for farm irrigation. Downstream demands for more water were perceived as a threat to the state's sovereignty.

Florida's main interest was in sustaining a flourishing seafood industry in Apalachicola Bay, which produces 90 percent of Florida's oysters. The health of marine life is closely tied to the river basin system; oysters, for instance, need periodic flows of freshwater and nutrients from the Apalachicola River, which in turn depended on the Chattahoochee River and Flint River in Georgia. At the time Florida was withdrawing 187 MGD from the river basin but maintained that irrigation by farmers in the upper

basin was diminishing river flows and that dredging for barge traffic was robbing the bay of nutrients.⁴¹

There was considerable handwringing in Atlanta over how the parties could come to an agreement. In the midst of another dry spell and awaiting Judge Thrash’s decision on CSO remediation plans, metro residents were eager to not only find a way to “drought proof” the region for water supply but also ensure that they would continue to have enough water for waste assimilation. Only a more detailed investigation can explain how much these conditions may have affected the positions each state took in their negotiations.

Table 5.1— Freshwater Withdrawals by State in ACF River Basin, 1990. (*Source*: USGS Water-Resources Investigation Report 93-4084. p. 1, table 1.)

State	Public Supplies	Self-supplied Domestic	Self-supplied commercial	Agriculture	Thermoelectric power generation	Totals
Alabama	21.29	1.31	45.73	15.94	98.80	183.07
Florida	5.04	5.2	35.44	33.42	108.36	187.46
Georgia	459.41	26.45	167.26	205.64	868.48	1727.24
Totals	485.74	32.96	248.43	255.00	1075.64	2097.77

⁴¹ “The Chattahoochee: River in Peril: The Water Wars,” *AJC*, 5 October 1998.

WILL THE WATER LAST?

Although the ACF Compact was originally set to expire on December 31, 1998, it was extended several times while the parties struggled to agree on an allocation formula. And although formal Commission discussions would continue until the Compact officially expired on August 31, 2003, a bevy of separate lawsuits that began in 2000 signaled the seemingly inexorable end to negotiations. In December of 2000, for example, Southeastern Federal Power Customers, Inc. (SeFPC)—a consortium of electric power suppliers who purchase hydropower generated at Buford Dam on Lake Lanier—filed suit against the Corps in the U.S. District Court for the District of Columbia (D.C. Court). SeFPC alleged that the Corps was without authority to allow the withdrawal of water from Lake Lanier for local and industrial usage because water supply benefits were not an authorized purpose of the Buford Dam project. SeFPC also argued that the Corps was overcharging for hydropower generated by Buford Dam because the prices had not been adjusted to reflect the increased withdrawals for water supply, which diminished the amount of water flowing through Buford Dam to generate hydropower. Further, SeFPC sought an injunction compelling the Corps to limit the uses of Buford Dam and Lake Lanier to those authorized by statute or, in the alternative, to grant SeFPC financial concessions to make up for the inequity in its payment schedule.⁴²

In February 2001, Georgia, the ARC, and local water supply providers moved to intervene and in January 2003 the parties executed a settlement agreement (the D.C.

⁴² Until otherwise noted, the summary of litigation that followed the SeFPC is based on Stephen E. O’Day, Jessica Lee Reece, & Josie Krause Nackers, “Wars Between the States in the 21st Century,” 239-248.

Agreement) that provided compensation to the hydroelectric customers and interim contracts to meet present needs for the local water supply providers. In the same month that the D.C. Agreement was filed, Alabama and Florida revived the 1990 Alabama case when the states asked the Alabama Court for a preliminary injunction and declaration that the D.C. Agreement was null and void in violation of the 1990 stay. Alabama and Florida then moved to intervene in the D.C. Case to challenge the D.C. Agreement, claiming that the Corps lacked the necessary statutory authority to enter into the D.C. Agreement because it constituted a “major operational change” to Lake Lanier operations and subsequently violated a number of federal statutes, including NEPA and the Endangered Species Act. After a full trial on the merits, Alabama and Florida’s objections were overruled and the settlement agreement was declared to be “valid and approved.” The states refused to honor the federal court’s decision and in late 2004 appealed to the United States Court of Appeals for the District of Columbia. The federal appeals court initially dismissed Alabama and Florida’s claims for lack of appellate jurisdiction based on the fact that the D.C. Agreement was not yet finalized. After the D.C. agreement was completed in 2006, Alabama and Florida again appealed.

Meanwhile, in 2000 Georgia asked the Corps to set aside more water from Buford Dam until the year 2030 to assure a reliable municipal and industrial water supply to the Atlanta region. The Corps failed to act on Georgia’s request and in February of 2001, after waiting approximately nine months for a response from the Corps, Georgia filed suit (Georgia Case) against the Corps in the Northern District of Georgia seeking both a declaration that Lake Lanier should be operated to meet Georgia’s future water supply needs and an order to the Corps to meet those needs. Florida and Alabama immediately

intervened and filed a motion to “abate” the case on the same grounds as those used in opposition to the D.C settlement. SeFPC also intervened as a defendant with Florida and Alabama, alleging that, unlike hydropower, municipal and industrial water supply was not an intended purpose of Buford Dam. Then, in April 2002, the Corps denied Georgia’s water supply request, saying it lacked “legal authority to grant Georgia’s request without additional legislative authority, because the request would involve substantial effects on project purposes and major operational changes.” Subsequently, motions to intervene by the Lake Lanier Association and the Water Supply Providers were granted, and the Georgia Case was abated and administratively closed pending final judgment in the Alabama Case. In March 2007, the suit was transferred to the Middle District of Florida for consolidation with the D.C. Case and four other related cases in the Tri–State Water Rights Litigation.

The Corps and Georgia’s defendants firmly contended that the plaintiff lacked standing on the grounds that the WSA of 1958 did not require the Corps to seek Congressional authorization for reallocation and because Florida and Alabama had failed to demonstrate that reallocation may adversely impact the environment and economy downstream in the ACF Basin. The Corps argued, for instance, the reallocations would cause only a one percent reduction in hydropower generation. In addition, the Metro Atlanta Chamber of Commerce, who was also invested in the Tri-State case, claimed that, on average, total water supply withdrawals for metropolitan Atlanta reduced flows at the Florida state line by just one to two percent. U.S. District Judge Paul Magnuson, nonetheless, ruled on July 17, 2009 that the Corps interim water plans and its reallocation constituted a “major operational change” and that the Corps had overstepped its

Congressional mandate. He argued, “Contrary to the Georgia parties’ argument, taken together the relevant statutes and legislative history point to only one conclusion: water supply, in the form of withdrawals from Lake Lanier and large-scale withdrawals from the Chattahoochee River, was not an authorized purpose of the Buford project. The Georgia parties’ argument that a combination of authorities allows the water-supply withdrawals is without merit.”⁴³

With this decision, Magnuson stayed the litigation for a period of three years to allow the parties to obtain Congressional approval for the operational changes the water supply providers requested. During the stay, the parties were allowed to continue to operate at current water-supply withdrawal levels but could not increase those withdrawals absent the agreement of all parties to the matter. Furthermore, Magnuson ruled that at the end of the three years, “absent Congressional authorization or some other resolution of this dispute,” operations at Buford Dam would return to mid-1970s levels, meaning that off-peak flow would return to 600 c.f.s. and only the towns of Gainseville and Buford would be allowed to withdraw from the lake.⁴⁴

Magnuson’s decision was a major blow to Atlanta, which now faced a potentially devastating cutback in its water supply if a decision could not be reached by July 2012. Georgia and metro Atlanta officials expressed their disappointment with the district court’s ruling and stated their intent to seek an appeal while negotiations resumed. They

⁴³ Phase I Ruling, 64-65, 88, 92; Metro Atlanta Chamber of Commerce, “Fact Sheet—Interstate Water Conflicts: Georgia-Alabama-Florida” (2002). In a later ruling, Magnuson denied all Florida’s claims under the Endangered Species Act. He also stated that the new Environmental Impact Statement must include consideration of all reasonable alternatives for the operation of Lake Lanier, include water supply. He said a failure to consider water supply would likely constitute an abuse of discretion and would result in a “useless document.” Phase II Ruling, *passim*.

⁴⁴ *Ibid*, 93.

continued to press the claim that because Metro Atlanta returns a higher percentage of water, net consumptive use is roughly equal to the combined level of Middle Chattahoochee and Lower Chattahoochee (see Table 5.2). In September 2009, The State of Georgia, the other Georgia parties (ARC, Cobb County Marietta Water Authority, the City of Atlanta, DeKalb County, Atlanta-Fulton Water Resources Commission, the City of Gainesville and Gwinnett County) and the U.S. Army Corps of Engineers made their formal appeal to the Eleventh Circuit Court, which subsequently accepted the case.⁴⁵

The findings of the three-judge panel were a rebuke of Magnuson's interpretation and a major victory for Metropolitan Atlanta water users. Noting that returning metro Atlanta's water withdrawals in three years to mid-1970s levels would present a public health and safety threat to the 3 million people who depend on Lake Lanier for water supply, the Eleventh Circuit concluded on June 28, 2011, that downstream water supply is an authorized purpose of Lake Lanier. The court of appeals found that the 1946 legislation authorizing the construction of Buford Dam also authorizes the Corps to operate Lake Lanier to support metro Atlanta's water withdrawals from the river downstream of Buford Dam. The Court further rejected Judge Magnuson's analysis of the Water Supply Act of 1958, arguing that the Water Supply Act provides additional authority, over and above the authority provided by the original legislation, to operate the reservoir for water supply. The appeals court ruled that the case should be remanded to

⁴⁵ "Georgia to Appeal Water Wars Ruling," *AJC*, 5 September 2009; "Tri-State Water Battle: Please, Governors, Get Back to the Table," *AJC*, 10 September 2010.

the Corps to determine the full extent of this authority and gave the Corps one year to make that determination.⁴⁶

Table 5.2—Net Consumptive Use of Chattahoochee River [during non-drought years].
 (Source: *Stakeholder's Briefing Georgia's Water* (Gov. Perdue's Presentation to Stakeholders Downstream of Metro Atlanta, August 5, 2009),
http://www.atlantaregional.com/File%20Library/Environment/ep_Gov_Presentation_Downstream_Stakeholders.pdf (accessed September 21, 2011))

Upper Chattahoochee (Lanier-dependent withdrawers)	Middle and Lower Chattahoochee
125 MGD	143 MGD
194 c.f.s	222 c.f.s.
0.9 % of average annual flow	1% of average annual flow

⁴⁶ Eleventh Circuit Ruling, *passim*.

CONCLUSION

The river systems involved in the so-called Tri-State Water Wars support a wide variety of uses and activities, including municipal and industrial water supply, hydroelectric power, fisheries, navigation, recreation, and waste assimilation. The rivers also support a complex ecosystem of flora and fauna. Many uses depend almost entirely on the network of dams and reservoirs that controls the flow of the rivers through manipulation of the various reservoir release schedules. The existing ecology, however, depends heavily on the natural cycle of high and low river flows. Uses that rely on the dams and reservoirs, moreover, may demand conflicting operating procedures. Lakeside recreation benefits from full reservoirs, for example, while navigation often requires releasing water.⁴⁷

These diverse interests have coexisted, however imperfectly, for many years under the reservoir management efforts of the Corps of Engineers as well as the "riparian rights" legal framework. Over time, however, development pressure, episodic droughts, new environmental legislation, and shifting priorities and consumption levels have severely tested this governance system. Legal scholars and policymakers have had to revise previous assumptions regarding water abundance in the Southeast and resolve new ways for resolving allocation disputes there and elsewhere in the eastern United States. With the Supreme Court and Congress reluctant to become directly involved in the issue, states, environmental advocates, and the Corps have been left to work out interstate compacts. In the case of Atlanta, that process of negotiations failed. Georgia, Florida, and Alabama were left with little recourse other than to pursue innovative legal strategies and

⁴⁷ C. Grady Moore, "Water Wars: Interstate Water Allocation in the Southeast," n.p.

ultimately allow federal district judges to resolve the competing claims. And while the Eleventh Circuit Court has recently ruled in Georgia's favor, further water conservation and planning efforts in all three states will be required to meet future demands. Comprehensive planning and management of Atlanta's water resources remains an elusive goal.⁴⁸

⁴⁸ Ibid; Hull, 1.

CONCLUSION

In many ways Atlanta's water problems are typical of those other American cities have faced. Like many large urban areas of the late nineteenth and early twentieth century, Atlanta developed municipally-owned, capital intensive sanitary systems that were capable of producing potable water and providing at least primary treatment of wastewater. Similarly, as metropolitan population fanned out from the urban core and water resources needs grew more regional in scope, these local services became entangled in jurisdictional disputes. And, like many of its counterparts, Atlanta eventually found itself constrained by the technological choices made during the city's early period of development and financially un-prepared to make the needed infrastructural improvements that a new ecological paradigm demanded.¹

Although Atlanta shares these similarities with other urban areas, its water troubles remain instructive. Unlike Los Angeles, San Francisco, Boston, and New York, Atlanta was unable to tap into distant water sources. And in contrast to Chicago, which siphons off Lake Michigan, and Houston, which has been able to supplement its groundwater resources by drawing upon the San Jacinto River, Atlanta has been forced to

¹ Melosi, *Precious Commodity*, 57-77.

rely almost exclusively on the erratic flows of the Chattahoochee River for its water supply needs.²

The mid-twentieth regional planners and geologists associated with the city were clearly aware of Atlanta's rather exceptional development and the challenges this posed. As previously explained, in 1952 the MPC pointed out in *Up Ahead* that Atlanta was only one of four major cities in the world to be situated on a continental divide, a fact that made each of these cities vulnerable to water shortages. One year before, geologists R.W. Carter and S.M. Herrick made an equally keen observation regarding Atlanta's past and future development. "Economists," they noted, "credit Atlanta's greatness to its location." "Atlanta," the researchers concurred, "does have a strategic location close to the southern edge of the Appalachian Mountains where several ridges that make excellent railway routes intersect." But the city's lack of harbors and river navigation led Carter and Herrick to conclude that "the availability of water had little to do with its growth" and to warn local officials "that there will be water-supply problems in the area."³

Carter and Herrick's warning came in the midst of Atlanta's full court press to ensure federal construction of Buford Dam. Like Mayor Hartsfield, Carter and Herrick believed that the impoundment created by Buford Dam would "provide enough water in the river to supply the growing city" and "almost any type of industry that

² On Los Angeles and San Francisco, see Norris Hundley, Jr., *The Great Thirst*; on Chicago, see Louis Cain, "Separating Wastewater from the Water Supply in a Lakefront City: Conserving Chicago's Water Resources," in Howard Rosen and Ann Durkin Keating ed. *Water and the City: The Next Century* (Chicago: Public Works Historical Society, 1991), 161-172; on Boston, see Sara S. Elkind, *Bay Cities and Water Politics*; On New York City, see Gerard T. Koepfel, *Water for Gotham: A History* (Princeton: Princeton University Press, 2001).

³ R.W. Carter and S.M. Herrick, *Water Resources of the Atlanta Metropolitan Area*, 1.

wishes to locate in the area.”⁴ But as we have seen, the regulated releases could only temporarily satisfy Atlanta’s thirst (measured in per capita consumption) and were insufficient to dilute Atlanta’s municipal effluent without greater pre-treatment.

Moreover, sixty years of continued metropolitan growth suggests blind faith in river regulations was overly optimistic. In May 2009, just one month before Judge Magnuson erroneously declared that Metropolitan Atlanta was illegally withdrawing water from Lake Lanier, state officials released a disturbing report for those concerned about the area’s future water supplies. According to the Metropolitan North Georgia Water Planning District, the advisory body created by the Georgia General Assembly in 2001 to establish policy, enact plans and promote intergovernmental coordination of all water issues for the 15 counties and over 90 cities within metro Atlanta, the region will exceed its permitted water withdrawal amount (882 MGD) before 2025 unless aggressive planning and conservation measures are taken. Worse still, local governments will be unable to meet their projected demands for the year 2035 (1,140 MGD) without securing additional water sources.⁵

Constraining though it has been, the physical environment did not determine Atlanta’s course of development. Of greater import were the ways that social values and political priorities affected the appropriation and use of available water resources. All available evidence suggests that Atlanta’s political and civic leaders clearly wanted to

⁴ Ibid, 16-17.

⁵ Metropolitan North Georgia Water Planning District, *Metropolitan North Georgia Water Planning District Water Supply and Water Conservation Management Plan*, (2009) http://www.northgeorgiawater.com/files/ExecSummary_WSWC_May2009.pdf (accessed August 11, 2011); 6.

facilitate economic growth. This intent runs straight through the successful lobbying for the construction of Buford Dam and as well as in the AWW slogan “Atlanta Grows Where Water Goes.” Though the Metropolitan Planning Commission advocated for coordinated water planning—and had the distinction of being the first publicly supported regional planning body—it did not oppose growth per se and had no legally binding authority over the metropolitan governments it counseled.

This weakness of the MPC in relation to the metro governments it served is consistent with Sam Bass Warner Jr.’s contention that metropolitan planning offered a feeble challenge to the American tradition of land management. The latter, which was derived from old common-law concepts, treated “land as the basis for personal freedom” rather than as a social resource. City and regional planning, he argues, was typified by zoning, which was “aimed not at disturbing existing conditions but projecting current trends into the future.”⁶

Such was the case with the MPC and its successor agencies, the Atlanta Region Metropolitan Planning Commission (1960) and the Atlanta Regional Commission (1975). Although the MPC recognized Atlanta’s future vulnerability vis-à-vis its water resources, its *raison d’être* in the immediate post-war years was to accommodate Atlanta’s downtown business core to the future decentralized population base. It did this through the promotion of regional plans that emphasized construction of expressways to facilitate “the movement of people and goods” into and out of the central city. As Warner explains, “metropolitan planning became a compulsory adjunct to highway design” when “no other

⁶ Sam Bass Warner, Jr. *The Urban Wilderness: A History of the American City* (New York: Harper and Row, Publishers, 1972), 30.

agencies or rules for adjudicating the opposing economic and land-development interests were forthcoming. Instead power was handed over to administrative bodies of mixed government and business interests” and suburban sprawl ensued.⁷

Atlanta’s construction of expressways anticipated the onset of federal interstate construction during the mid-1950s and imprinted the “rim and spoke” pattern that describes Atlanta’s spatial dimensions today. The phenomena of the “spreading city” had major consequences for managing metro Atlanta’s water resources. It produced a tendency to overdesign water systems to accommodate future demand, which in turn created a vicious cycle where populations started to leapfrog ahead, become increasingly decentralized and drive up water use in the process. Decentralized population required more water treatment facilities and higher withdrawals to meet the expected future demand, which in turn increased the pollution load on the Chattahoochee River.

Despite their advocacy of integrated water and sewer planning, regional planners did little to stem sprawl and confront its looming the consequences. In 1964, for example, the ARMPC stated that “public water supplies are now available within an area of almost 1,300 square miles; this is enough land, theoretically, to accommodate the expected growth of the region for the rest of this century.”⁸ The ARC would begin during the 1970s, moreover, to work with the Corps of Engineers to find ways increase rather than conserve the region’s water supplies.

⁷ Ibid, 50-51.

⁸ Atlanta Region Metropolitan Planning Commission, *Open Land/Regional Problems and Opportunities* (Atlanta, 1964), 16.

The consequences of pro-growth policies and lack of determined political leadership with regard to environmental policy is perhaps most evident in the realm of pollution control. Since the mid-1960s, the ARC consistently called for the creation of unified Metropolitan Water and Sewerage Authority that would oversee all sanitary operations, planning, and billing within the service area. Local political leaders resisted these recommendations and instead remained contractual partners in the Metropolitan Sewer System. Completed in the late 1930s, it serves three counties and numerous political sub-units but is owned and operated primarily by the City of Atlanta. Much to the chagrin of its sewer partners, the City of Atlanta has demonstrated a willingness to postpone improvements until forced by either federal and state regulators or federal court judges. Atlanta's record of under-achievement in pollution control has prompted its partners to frequently accuse the city of mismanagement. City officials have responded, however, that its partners should share more of the financial burden. Evidence shows that Atlanta's delinquency in upgrading its WWTFs has often been the result of the city's reluctance to raise sewer rates. The city did not even have a sewer service charge until the late 1960s. Subsequent rate increases, prior to the consent decrees of 1998 and 1999, were far and few in between.

Atlanta's policy of deferring sanitary improvements is understandable, to a certain extent. Sewer construction is an expensive drain on the public treasury and garners far less enthusiasm than revenue-generating endeavors such as stadium constructions or airport expansions. Few ribbon cutting ceremonies or photo opportunities are held for repairing a leaking sewer trunk line, despite the benefits they may raise for local ratepayers. In this context, the temptation to defer investment in environmental

infrastructure, and hope that catastrophe can be averted beyond one's own term in office, is powerful and often irresistible. Sewer problems were often passed to the next generation as a result.

In all likelihood, Atlanta would have neglected its sanitary infrastructure indefinitely, if not for the intervention of the federal government. In fact, the federal government has played a prominent role in the development of water policy in metropolitan Atlanta during most of the twentieth century. It began as a passive stimulator of economic development, providing the funding for both the Metropolitan Sewer System during the late 1930s and Buford Dam in the 1950s. As a new ecological paradigm took hold, the role of the federal government evolved into an active promoter of environmental quality. As the federal regulatory state expanded and Atlanta was placed under increased pressure to make necessary improvements to its sanitary systems, the federal government provided seventy-five percent of the funds needed to complete the Three Rivers Water Quality Management Program.

Delays continued, however, and Atlanta's continued neglect of its water and wastewater infrastructure had serious consequences. Not only did Atlanta's lack of action lead to millions of dollars in fines for violating state and federal water quality laws; it also engendered deep resentment and distrust of not only Atlanta's political leadership and technological expertise upon whom the city had long relied. Agitated citizens began to mount aggressive protests over city proposals, which further delayed pollution abatement projects. Some Atlantans have viewed grassroots organizing and their influence on City Hall as a triumph of participatory democracy and an affirmation of the value of citizen participation in the formulation of environmental policy that is socially

equitable, financially responsible, and ecologically sound. Others have countered this notion, arguing instead that tens of millions of dollars were wasted when city leaders abandoned their original control plan as a result of community protests. Atlanta's continued political indecision and foot-dragging also prompted other activists to seek court action, using the federal framework of environmental law in unexpected but effective ways to bring about substantive change.

The full complexity of these disputes and the accompanying controversies over privatization of the municipal water supply system remain unexplored. The racially charged nature of the Combined Sewer Overflows (CSOs) and phosphorous pollutions, for instance, invites further investigation into the ways that race and class influenced Atlanta's environmental development. The erosion of public trust in engineering expertise, and the regional character of environmentalism, including possible southern antipathy toward federal intervention and strong anti-urban bias in state legislatures, also remain beyond scope of this dissertation but are equally deserving of greater scrutiny.

In recent years, Atlanta has come a long way towards developing a more integrated water management approach. Mayor Franklin's Department of Watershed Management unified water and wastewater services into the same administrative body after spending most of the twentieth century separate. But the city is not out of the woods yet. While the Eleventh Circuit Court has ruled that water supply is an authorized purpose of Buford Dam, negotiations must continue between the three states for future allocations even as the Corps makes a final determination of its authority to operate the federal dam. Likewise, although Mayor Franklin's Clean Water Initiative completed the mandated CSO remedial measures within the Consent Decree's stipulated time frame, the

city has recently indicated that it cannot complete the SSO improvements by 2014 due to lack of money and intends to ask for an extension until 2029. Meanwhile, Atlanta residents are paying some of the highest water and sewer rates in the nation and the city has proposed adding a stormwater fee that is expected to cost homeowners between \$64 and \$120 per year.⁹

With expected population gains of over two million new people over the next twenty years, metro Atlantans would do well to consider lessons that may be gleaned from the last half-century. For most of them, the subjects of water supply and sewers are remote and uninteresting. Yet these issues should merit their attention for a number of reasons. Both are important elements of the larger infrastructure that provides the foundation for economic growth. They are essential for preserving public health and the environment.

Water and wastewater systems also represent a major public investment and the costs of failing to make timely and informed decisions regarding their performance can be considerable. Some of these costs may be dramatic, as in the case of multi-million dollar fines or the possibility of a court-ordered reduction in withdrawal amounts. Other costs may be expressed more subtly, like lost opportunities for economic development that stem from sewer moratoriums and fear of water shortages, or recreational and aesthetic enjoyment of waterways due to stream pollution. As history shows, the blind ambition that creates progress can also bring about potentially devastating consequences.

⁹ “Court Hands Big Victory to Ga. in Tri-State Water War,” *New York Times*, 29 June 2011; “Atlanta's Sewer Woes Frustrate Georgians,” *AJC*, 13 May 2010.

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