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The hydro-racial fix in infrastructural regions: Atlanta's situation in a regional water governance conflict

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ABSTRACT

Globally, rapid population growth in cities, regulatory and governance failures, poor infrastructure, inadequate funding for urban water systems, and the impacts of climate change are each rapidly reconfiguring regional hydrosocial relations. In the United States, these hydrosocial reconfigurations tend to reinforce racial inequalities tied to infrastructure, exacerbating environmental injustices. More generally, according to a framework of racial capitalism, infrastructural regions and hydrosocial relations are always already racialized and structured simultaneously by capitalism and racism. In this paper, we integrate hydrosocial and racial justice perspectives with the literature on infrastructural regionalism to examine Atlanta's position in the so-called tri-state water wars between Alabama, Georgia and Florida. Combining analysis of academic, policy, and legal documents, journalistic accounts, and semi-structured interviews with water conservationists and managers working in Atlanta, we examine conflicts over water use in the infrastructural region of the Apalachicola–Chattahoochee–Flint (ACF) river system. We emphasize that the ACF conflict reworks regional hydrosocial relations through territorializations of racial capitalism. We demonstrate how particular discourses that reify Atlanta as a monolith overly simplify the regional dimensions of the crisis, diminishing the views, roles and interventions of diverse actors in the ACF region. We argue that work on infrastructure regionalism and water governance can be deepened through attention to the hydro-racial fix.

KEYWORDS

Apalachicola–Chattahoochee–Flint (ACF); urban water governance; hydrosocial; infrastructure regionalism; Atlanta; racial capitalism; water infrastructure; hydro-racial fix

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1. INTRODUCTION

Intensive urbanization under global capitalism coupled with neoliberal water governance failures has led to increasing water supply shortages and costs; populations without access to safe water; depletion of surface water and groundwater aquifers; pollution of neighbourhoods and water resources; and conflicts over water use and allocation for drinking, agriculture and energy.

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In the United States, water infrastructure failures are integrated with racial disparities and structural racism (Meehan et al., 2020; Ranganathan, 2016). Similar to rural Black communities lacking access to sanitation (Flowers, 2020) and water access struggles for minority communities on the urban fringe (Ranganathan & Balazs, 2015), long histories of systemic racism have produced profound disparities in urban water infrastructure across American cities. In Flint, Michigan, poor infrastructure and regulatory failures at multiple levels rooted in decades of racialized economic inequality and environmental injustice produced a water crisis of lead poisoning that disproportionately impacts poor and minority communities (Pulido, 2016). As in the ongoing potable water crisis in Jackson, Mississippi, which Ponder (2021) situates in both national and global structures of anti-Blackness and racial capitalism, cities such as Baltimore, Philadelphia and Detroit struggle with systemic water inequalities, including dilapidated water infrastructure, criminalization and dispossession of residents who cannot afford rising water bills, and widespread water shutoffs disproportionately impacting racial minority communities (Swain et al., 2020; Ponder & Omstedt, 2019; Ponder, 2021). Recent studies demonstrate that patterns of water insecurity, inadequate water infrastructure and failures of water governance have deep rooted political, economic and social drivers, including complex and dynamic structural histories of racism (Deitz & Meehan, 2019; Meehan et al., 2020).

In this article, we build on scholarship of racial urban water inequalities to examine how conflicts over water use can shape hydrosocial relations in an infrastructural region through phenomena we call hydro-racial fixes. Playing off Harvey's (1981, 1982, 2003) conceptions of the *spatial fix* and the *spatiotemporal fix*, which focus on the (im)mobilizations of capital in response to crises of overaccumulation, we use the term *hydro-racial fix* to identify particular discursive and material mechanisms that (re)structure inequities of race and water through racial capitalism. In our framing, the hydro-racial fix hones in on water-specific elements of the broader racial formations theorized by Omi and Winant (2014). We extend the double meaning of fix as both solution to a problem and as (temporary) immobilization in a dynamic space of processual relations. Thus, with *hydro-racial fix*, we refer to both (1) the discursive erasures of racism that remove race from the framing of water governance challenges in highly racialized hydrosocial contexts; and (2) the specific, material tetherings of race to water infrastructure that produce racially disparate harm and risk, witnessed in cities and regions across the United States.

We focus on Atlanta, Georgia, in the southeastern United States, as an instance of water conflict emerging from an infrastructural region structured by racial capitalism. We demonstrate how, because lacking an analysis of race, particular discourses in this water conflict overly simplify the regional dimensions of this crisis, diminishing the views, roles and interventions of diverse actors. Atlanta's water woes have been an almost continuous burden for more than a century as the metro population has boomed and sprawled. Atlanta's water challenges are also deeply tied to race (McCreary & Milligan, 2018), and we argue that this racial dimension of water governance is significant for the configuration of regional hydrosocial relations. More specifically, we examine the regional conflicts over water use in the drainage basin of the Apalachicola–Chattahoochee–Flint (ACF) river system. The ACF Basin spans three southeastern US states – Georgia, Florida and Alabama – each of which relies on withdrawals from the basin for economic development, agriculture and fishing, municipal water supplies, power generation, tourism and recreation. The ACF water dispute began over the allocation of municipal water supply from Lake Lanier, the uppermost of five dams operated by the US Army Corps of Engineers (USACE) in the ACF, to the expanding suburbs of metro-Atlanta (Wheeler, 2009). The ACF is the site of one of the longest running water disputes in the United States (Ruhl, 2005; Wong & Bosman, 2014), yet largely understudied in critical scholarship despite its regional significance.

The main point of our article is to critique the absence of attention to racial differences and racial drivers in popular, professional, and academic framings of the ACF water conflict.

The remainder of the paper is structured as follows. In the next sections, we first lay out our theoretical approach to the ACF with the theory of racial capitalism and explain our methodology. We then review the literature on hydrosocial relations and scholarship on infrastructural regions before providing a historical review of Atlanta in 30 years of conflict over infrastructure and flows in the ACF. Building on this foundation, we provide two empirical sections: the first challenging how Atlanta is portrayed as a monolith, the second showcasing diversity in water governance in Atlanta and the ACF in contrast to popular and academic framings of the conflict. A final discussion argues for a need to augment the analysis of the spatiotemporal fix with a conceptualization of the hydro-racial fix to understand the territorialization of the ACF as an infrastructural region of racial capitalism. More broadly, we argue that work on infrastructural regionalism and water governance in US cities can be deepened through attention to the hydro-racial fix.

2. THEORETICAL APPROACH AND METHODS

Thinking with scholars who have begun to address water governance in the context of racial capitalism (Pulido, 2016; Ranganathan, 2016; Ponder & Omstedt, 2019; McCreary & Milligan, 2021; Ponder, 2021), we approach our analysis of the infrastructural region of the ACF with a hydrosocial conceptual framework that attends to the racial injustices permeating the political ecology of water in the US Southeast. The theory of racial capitalism stems from Cedric Robinson's analysis in *Black Marxism* (1983) (Robinson, 2000). In this monumental work, Robinson argues that capitalism emerged as a racial formation from its earliest days, even before the proliferation of European colonialism, and, further, that contemporary capitalism, across scales and in all its formations, is thoroughly racialized. Pulido (2016) offers clear guidance on the necessity and value of racial capitalism as a theoretical tool. Building on Robinson (2000), Melamed (2015) and others, Pulido (2016) argues that the theoretical starting point of racial capitalism is essential for understanding both capitalism and racism, that racism is a constitutive logic of capitalism, and that, just as the spatial fix is fundamental to capitalism, so too is racial difference. In this framework, race is neither reducible to class nor simply another variable or 'additive' dimension of capitalist exploitation and modes of accumulation; instead, the theory of racial capitalism insists that race is fundamental to the production of landscapes and social formations for exploitation. Not every dimension of the political economies of racial capitalism are] overtly racist, yet all these relations and processes are 'thoroughly saturated with racial meaning and consequences' (p. 7).

Several studies have explicitly incorporated racial capitalism to examine water governance in the United States. Like Pulido (2016), Ranganathan (2016) has demonstrated that the lead poisoning of the Flint, Michigan, water crisis is only possible to understand through decades of housing policy, segregation and disinvestment of urbanization under racial capitalism. Ponder and Omstedt (2019) also employ racial capitalism to examine water bill 'delinquency' and shut-offs alongside the 2013 municipal bankruptcy of Detroit, Michigan. Beyond Michigan, Ponder (2021) has used racial capitalism to flesh out the injustices of the municipal bond market for majority Black cities across the United States. To date, only two studies have addressed the nexus of racial capitalism with water issues in Georgia. McCreary and Milligan (2021) examine the limits of liberal recognition for environmental injustice activism in a comparative study of Vancouver (BC, Canada) and Atlanta that centres racial capitalism and settler colonialism. Hardy et al. (2022) examine sea-level rise on the Georgia coast as environmental racism, wherein racial capitalism functions to displace and dislocate Gullah/Geechee people on Sapelo Island. Among this emerging literature on racial capitalism and water governance, scholars have yet to address the impacts of racial capitalism on regional water governance. Moreover, while hydrosocial scholarship and research on infrastructural regions provide important insights into the

formation of regions tied to the governance and use of water resources, these areas of scholarship have not taken up racial capitalism as a theoretical tool.

Our paper theoretically employs racial capitalism to unpack Atlanta's position in the regional ACF conflict. Methodologically, we contrast two important studies of Atlanta's role in the conflict with the theoretical vantage point provided by racial capitalism. We supplement this theoretical intervention with primary qualitative data. Drawing from 10 years of participant observation with river and watershed activists and non-profits as well as 20 semi-structured interviews with water managers, activists and conservationists working in Atlanta, we demonstrate the scalar and stakeholder diversity in the transboundary water governance of the ACF. The interviews were conducted as part of broader research on urban water governance and environmental injustice in Atlanta. Subjects were recruited by email and interviewed for about one hour each about urban water governance, the tri-state conflict, consent decrees governing sewage infrastructure, water quality monitoring programmes and disproportionate impacts of water governance on minority populations. Interviews before March 2020 were conducted in person, and since the COVID-19 pandemic have been conducted via video-conference. All interviews were recorded, transcribed, and analysed thematically. In this paper, we focus on results from this research related to the diversity of water governance practices related to the ACF conflict. Additionally, we analysed reporting on the tri-state conflict, legal decisions, policy documents, non-governmental organization (NGO) reports, and water supply programmes and policies in the state of Georgia.

Our analysis demonstrates how scholarship on hydrosocial relations and infrastructural regions can be combined to better understand two key points: (1) the ways in which *Atlanta*, portrayed as a monolithic 'city-region' (Wong & Bosman, 2014), is regularly essentialized as a singular actor in the conflict, erasing the complex diversity of stakeholders within the metro; and (2) the ways that this framing of the conflict is driving particular territorializations of the ACF as a region to the detriment of emerging regional governance institutions and publics. We argue that these misconceptions in the regional framing of the ACF conflict reproduce racial disparities and exclusions through two prominent hydro-racial fixes. The next section provides a review of literatures on the hydrosocial and the infrastructural regions. We argue that work on infrastructural regionalism (Glass et al., 2019) can be deepened by a focus on hydrosocial relations (Linton & Budds, 2014; Swyngedouw, 2009) and racial capitalism (Melamed, 2015; Pulido, 2016). Following this literature review, we provide a brief history of the legal water conflict. We then elaborate two hydro-racial fixes in the territorialization of the ACF in sections that combine theoretical examination of key critical studies of Atlanta's situation in the ACF conflict with empirical analysis of qualitative research. Finally, we provide a discussion of the limitations of the spatiotemporal fix and the need to also employ the hydro-racial fix to understand infrastructural regions of water governance in racial capitalism.

3. HYDROSOCIAL RELATIONS AND INFRASTRUCTURAL REGIONS

To examine Atlanta's position in the ACF water conflict, we draw from research on water governance that employs 'the hydrosocial cycle' as a conceptual lens (Budds, 2009; Linton & Budds, 2014) and from scholarship on infrastructural regions (Glass et al., 2019). Both of these bodies of scholarship are useful to understanding the complicated and contested landscape of flows in the ACF river system, including the series of federally controlled impoundments stretching from the north-eastern edge of the Atlanta metro to the Georgia–Florida–Alabama line. Leaning on these two conceptual tools, we can examine how socionatural assemblages of water and society are being made and remade in relation to conflict over water use and the regulation of USACE infrastructure in the ACF basin.

In the last decade, many scholars addressing society–water relations have employed the concept of the 'hydrosocial' to interrupt the facile separation of humans from the 'natural' water system. The hydrosocial cycle is defined as a 'socio-natural process by which water and society make and remake each other over space and time' (Linton & Budds, 2014, p. 175). The conventional hydrological cycle focuses strictly on water's physical nature and depoliticizes water use, governance and management. Alternatively, the hydrosocial cycle theorizes water's social dimensions, including the politics, power relations and historical processes that shape its flow (Linton & Budds, 2014). Within this body of work, water governance or management is viewed as a socio-natural process wherein water and society make and remake each other at different scales (Boelens, 2014; Swyngedouw, 2004). A socio-natural process implies that addressing water scarcity requires adequate understanding of diverse *hydrosocial* configurations of actors, institutions, roles, perceptions, interests and power relations. Such hydrosocial configurations create scarcity and at the same time shape the emergence and effectiveness of solutions (Boelens et al., 2016). Research on hydrosocial geographies thus provides a conceptual and methodological tool kit to better understand the practices and perceptions of actors and stakeholders in urban water governance, attentive to the complex politics that underlie decision-making processes and different consequences. We extend the hydrosocial concept to study the contested flows and notions of water in the ACF.

The hydrosocial landscape and governance history in Atlanta provide a unique opportunity to investigate how stakeholder groups and low-income communities have been excluded from decision-making in regional water governance, while also looking at how media portrayals influence the perception of water governance in the region. This background on the history of water in Atlanta, looking at both internal and external conflicts, provides important context about the global trend of neoliberalism and privatization of public services. Looking at these conflicts from a hydrosocial point of view incorporates the history of the disputes, the social constructs and power structures at play, the infrastructure and technology available, as well as the physical availability of water (Linton & Budds, 2014). Building from this hydrosocial perspective, we aim this intervention at the 'remarkable absence of critical scholarship about the longest interstate conflict in US history', the as-yet unresolved series of legal battles between Georgia, Florida and Alabama beginning in 1990 over apportionments and flows in the ACF basin (Wong & Bosman, 2014, p. 584).

Looking *outside* the city and its hydrosocial production of race, an emerging research agenda on 'infrastructural regionalisms' is crucial for understanding the political relations emerging from the socionatural waterscape of the ACF. There is nothing given about regions, they do not fall from heaven, nor are they determined by environment, nor do territorially defined regional boundaries necessarily instantiate functioning regions. The watershed boundaries of the ACF have not historically determined or designated any regional boundaries. Nor have the principal tributaries composing the ACF system played a key role in delineating any social, political or economic region, except that the confluence of the Chattahoochee and Flint rivers marks the shared boundary of Alabama, Florida and Georgia, and the Alabama–Georgia boundary below the fall line is delineated by the Chattahoochee. There is a strong history of geographers challenging misconceptions about the nature and causes of 'regional problems' (Massey, 1979, p. 234). In a path-breaking essay from 1979, Doreen Massey challenged the positivist tendency to analyse what appear to be regional problems or inequalities solely in terms of distribution, ignoring structural drivers. Instead, Massey insisted that inequality was not an unfortunate outcome of capitalist regions ordered through a spatial distribution of labour but a necessity: 'production for profit may actually both imply and require such inequality' (p. 243). While the ACF is not an economic region organized through a spatial distribution of labour, Massey's insights parallel the need to recognize that the production of water scarcity and regional conflict in the ACF is not merely a technical and managerial problem of spatial distribution and allocation of water resources. It is important to

ask, much as Massey urged over 40 years ago: *In what sense is the ACF a 'regional problem'?* The 'focus on the efficacy of dispute resolution mechanisms with a view to ascertaining how governance, technological innovations, and mitigation efforts might assist in the organization and management of competition and conflict over water' in the ACF tends to hide from analytical view 'the system of capitalist urbanization and its fetish for water-intensive growth through endless territorial expansion and geographical restructuring,' the actual driver of the crisis (Wong & Bosman, 2014, p. 585). While we agree with this argument from Wong and Bosman (2014) about the limitations of technocratic approach, in this paper we insist on the need to address racial dimensions of the ACF conflict in addition to concerns about the spatial fix, spatio-temporal deferral, and accumulation by dispossession. Drawing on racial capitalism, we examine how the hydro-racial fix is also needed to understand how infrastructural water conflicts 'interpolate new regional spaces and new publics' (Addie et al., 2020, p. 17).

Scholars in regional studies have further elaborated the 'the uncertain ways in which regions are created and recreated through networked social relationships', emphasizing that the coherence of any region is more outcome and achievement than given; indeed, 'the invention and re-invention of regions is a constant' (Allen & Cochrane, 2007, pp. 1162, 1163). One manner of thinking the hydrosocial and infrastructural regionalism together might be suggested by Boelens et al. (2016) who develop a political ecology perspective on 'hydrosocial territories'. While Boelens et al. (2016) construe 'region' mostly as one in a series of nested scales, their definition of hydrosocial territories provides a model for thinking infrastructural regionalism and hydrosocial together:

> the contested imaginary and socio-environmental materialization of a spatially bound multi-scalar network in which humans, water flows, ecological relations, hydraulic infrastructure, financial means, legal–administrative arrangements and cultural institutions and practices are interactively defined, aligned and mobilized through epistemological belief systems, political hierarchies and naturalizing discourses. (p. 2)

While hydrosocial scholarship and research on infrastructural regions provide important insights into the formation of regions tied to the governance and use of water resources, these areas of scholarship have not taken up racial capitalism as a theoretical tool. Our point here is that by combining hydrosocial analysis and racial capitalism with concepts and tools from the literature on infrastructural regionalism, we can better understand how racial dynamics are being reterritorialized and rescaled in regional formations driven by the ACF conflict, and situating Atlanta's role in this dynamic regionalization.

4. SITUATING ATLANTA IN 30 YEARS OF ACF WATER CONFLICT

Sprawling metro Atlanta straddles the upper portions of the Chattahoochee River watershed, the northern headwaters of the Flint River, which rises just before flowing beneath one of the world's busiest airports, as well as the headwaters of the South River, a tributary of the Altamaha River system, one of the largest sources of freshwater to the Atlantic on the US eastern seaboard. Atlanta's location directly on top of the subcontinental divide makes it one of the only cities of its size not located directly on a major supply of water. The north-west boundary of the City of Atlanta runs adjacent to the Chattahoochee River, from which the city draws its municipal water supply, nearly 7 miles from the central business district.

In the late 1800s, Atlanta leaders struggled to ensure sufficient water supply to combat fire in the quickly growing railroad junction, situated on the eastern subcontinental divide of North America, too distant from sufficient surface water flows, and perched on bedrock that did not allow sufficient access to groundwater (Borden, 2014). In the early 20th century, poor sewage

and sanitation, water-borne illness, and inadequate supply were among the biggest issues facing the city (Galishoff, 1985). Atlanta was one of the worst hit cities in North America in terms of the public health epidemics of the early 1900s arising from poor sanitation that drove its death rates higher than any other US city (Borden, 2014).

While access to water to combat fire waned as a crisis for the city, sewage problems continued throughout the 20th century as the city continued to expand its combined stormwater and sewage system. By the 1990s, Atlanta was continually pumping hundreds of millions of gallons of untreated sewage annually into the Chattahoochee River, leading to a Clean Water Act lawsuit brought by an environmental organization that resulted in a consent decree that ultimately required the City of Atlanta to spend roughly US$4 billion over the first 20 years of the 21st century to improve or separate its combined sanitary and stormwater sewage system. Driven by rising costs, mismanagement and neoliberal visions, the city privatized its water system in the late 1990s. This neoliberal scheme with United Water lasted from 1999 to 2003, ultimately not only failing but also leaving the city and its ratepayers in an even more critical status (Ohemeng & Grant, 2011, Jehl, 2003). All these troubles with water have led to some of the highest water rates in the United States. United Water was plagued with poor performance, huge repair requirements and public opposition from the onset. After just four years of a 20-year contract, the city terminated its contract with Suez subsidiary United Water. At US$21.4 million annually, the contract to provide service and maintain the 'overloaded network of 2,400 miles of water distribution lines' was the largest water privatization agreement in US history at the time it was formulated (Brooks, 2003). Rate payers in Atlanta continue to bear the burden of this neoliberal failure. According to a 2012 report, Atlanta was among three US cities that had seen water rates triple, with city officials claiming that rates increased between 2001 and 2012 by 233% for monthly usage of 1000 cubic feet of water (McCoy, 2012). In the current housing crisis, water bills are frequently among the factors displacing low-income residents in the gentrifying city.

Thus, for a century the City of Atlanta has careened from crisis to crisis in terms of water, and in the last 30 years, the more than 6 million residents of metro Atlanta have found themselves at the centre of a regional conflict over water supply. The economic and population growth in the metro area of Atlanta over the past half century has required a growing number of municipalities to ramp up supply and delivery of water to accommodate growth. Following the period of intense white flight in the 1970s, suburban areas, especially to the north and east, of Atlanta were among the fastest growing in the US. Metro Atlanta experienced a 60.8% increase in its population from 1982 to 1997, markedly more rapid growth than Los Angeles, Detroit, Houston and Washington, DC, over the same period (Fulton et al., 2001). In the 1980s, the USACE granted a water supply allocation from Lake Lanier to sustain development in these rapidly growing suburbs. This specific expansion of municipal water supply allocations sparked a legal conflict between Florida, Alabama, Georgia and the USACE over water apportionment in the ACF basin that has lasted for 30 years. A series of lawsuits sparked by the need for water supply in Atlanta's suburbs has become the longest running water dispute between states in US history. The Supreme Court recently ruled unanimously in Georgia's favour, but continuing legal conflict is expected.

The regional dispute began with the USACE recommendation for a reallocation of water stored for hydropower in Lake Lanier to be used for water supply to metro Atlanta municipal and county governments in 1988 (Missimer et al., 2014). The recommendation stemmed from a multi-year study, conducted by the USACE with the Atlanta Regional Commission (ARC), and US Environmental Protection Agency (EPA), to determine the best manner for the Atlanta metro to meet its growing water supply needs (ARC, 2020). In 1990, Alabama sued to prevent the USACE from implementing this recommendation, and Florida joined the lawsuit. This initial litigation resulted in a memorandum of understanding between the three states and the USACE in 1992, followed by an Interstate Compact Agreement in 1997, allowing

for a comprehensive study of the basin and continued water withdrawals in metro Atlanta (Missimer et al., 2014). Negotiations floundered and the interstate compact expired in 2003, reinstating litigation amounting to eight cases in two district courts (Wong & Bosman, 2014; Missimer et al., 2014). These cases were narrowed to two issues by Federal District Court Judge Paul Magnuson, one challenging the authority of the USACE to allocate supply form Lake Lanier and the other addressing claims that water use resulting in diminished flows through the ACF threatened fisheries and endangered species in Apalachicola Bay (Missimer et al., 2014). Following several rulings, appeals and reversals, it was ultimately decided that the USACE allocation of water supply to metro Atlanta was lawful and Florida's claim that USACE operations impacted fisheries and endangered species was rejected. In 2013, Florida sued Georgia directly in the US Supreme Court for impacts of its use of freshwater in the ACF on Apalachicola Bay. After a prolonged and costly litigation process, the court dismissed the case in April 2021, citing the inability of Florida to prove that Georgia was responsible for environmental impacts (Hallerman, 2021; Samuel, 2021; Schmitz & McCreary, 2022). In the opinion, Justice Amy Coney Barrett contended that 'many factors influence Apalachicola flows' and that 'In short, Florida has not met the exacting standard necessary to warrant the exercise of this Court's extraordinary authority to control the conduct of a coequal sovereign' (*Florida v. Georgia*, 2021). Despite this unanimous ruling, the ACF conflict remains unresolved, with multiple lower level lawsuits regarding USACE operations in the ACF still pending, and many more likely to be filed in the future (Hallerman, 2021; Samuel, 2021).

Recent court rulings have clearly stated that none of the parties is doing enough to promote conservation or to develop strategies to diminish demand. In 2017, the USACE finally updated its decades-old Master Water Control Manual for all impoundments in the ACF basin, including the publication of a vast environmental impact study. As we heard in many qualitative interviews, the allocation of water from Lake Lanier is just the most salient issue, one that the lawsuits can be fought over. As a leader from a prominent NGO put it, 'The sooner we can get out of the courts the better … that's been a real obstacle to … coming up with a solution … the lawyers prevent collaboration, because it means sharing information that could then be detrimental in court.' Suffice it to say, solutions to the water conflict are not clear-cut, and the discursive formation of an infrastructural region around contested water uses and infrastructures in the ACF has been overwrought in terms of legal conflict with insufficient attention to matters not pertinent to the litigation.

5. HYDRO-RACIAL FIX 1: ERASING RACE TO TERRITORIALIZE A MONOLITH

It is common for journalists, academics and environmental professionals to discuss this regional water conflict under the moniker of the 'tri-state water wars', echoing the terminology of water conflicts in the western United States, and emphasizing the enduring and costly legal battle that has ensued since the first lawsuit in 1989. Legal costs in the most recent round of litigation alone are estimated at over US$100 million (Barnes, 2018). The combatants in the war, in this manner of speaking, are, by turns, charismatic, loathsome and even invidious. The regional conflict has a clear common-sense articulated by Justice Elena Kagan in recent hearings: the dispute is about 'whether the flow of waters will favor Atlanta and the farmers of southwestern Georgia or the seafood producers of the Florida Panhandle' (Barnes, 2018). Our first intervention uses the theory of racial capitalism and the hydro-racial fix to address this discursive framing of the infrastructural region in terms of a singular and monolithic Atlanta versus the collective entities of farmers and seafood producers downstream.

The lengthy and costly legal conflict is driving new forms of regional cooperation, governance and conflict in the space of flows connected through the ACF river system and mediated by

USACE infrastructure, but how are these emergent regional formations structure by race? From a hydrosocial perspective, the history of water *in* Atlanta is an essential component of the production of race and racial disparities. In the early 1900s, Atlanta's dissimilarity index was actually much lower than many cities because segregation followed topographical patterns, Black communities living in the bottoms where sewage swamped and white residents living nearby but uphill. The public health crisis from the city's inadequate sewage was cast as a racial crisis with Black neighbourhoods blamed for epidemics of water-borne disease rising from the inadequate sewage system; thus the earliest segregation policies in Atlanta were driven by hydrosocial relations and the practices of slum clearance and urban renewal of the mid-20th century were also intimately connected with spaces and flows of sewage (Borden, 2014; Bayor, 1989). Throughout the latter 20th century, white flight combined with regulatory abandonment degraded and devalued Black lives and Black property in the City of Atlanta as the ageing combined sewer system routinely pulsed insufficiently treated wastes into Black neighbourhoods (McCreary & Milligan, 2021; Milligan et al., 2021). In recent years, as the city has been compelled to address combined sewer overflows, the spaces abandoned for decades to degrading and devaluing flows of sewage have now become the most profitable sites of gentrification, particularly green gentrification through which sewer and stormwater infrastructure fixes are the municipal investment that spurs accumulation and displacement by developers (Milligan et al., 2021). From a hydrosocial vantage, water infrastructure doubles as racial infrastructure in a deep history of development in Atlanta under racial capitalism.

Thus, a series of hydro-racial fixes have tethered segregation and the production of racial difference to water infrastructure throughout Atlanta's history, a point made clear in Skye Borden's *Thirsty City: Politics, Greed, and the Making of Atlanta's Water Crisis* (2014), which provides a thorough examination of Atlanta's water issues from the late 19th century through to the current ACF conflict. While Borden connects the history of water infrastructure *in* Atlanta to systemic environmental racism and racial oppression, when she turns to the regional ACF conflict, racial matters and racial difference fall by the wayside. Atlanta as a monolithic city-region is portrayed as guided by leaders who fail to address water resource challenges, but Borden does not connect these failures to the history of environmental racism. The relentless, unchecked growth is not placed in the contexts of subsidizing white flight, systematic disinvestment and regulatory abandonments of Black spaces, nor the broader logics of capitalist development in tandem with segregation regimes and white supremacy. While providing a rigorous chronology of the ACF conflict, Borden's focus shifts from a nuanced portrayal of racial difference in Atlanta's water history to a less nuanced portrayal of Atlanta as the 'thirsty' monolith in conflict with Florida and Alabama over a limited resource.

Similarly, in journalism about the conflict, there is a pervasive trope of metro Atlanta as a singular force unfairly 'hogging' the shared resource to the detriment of downstream users (Bluestein, 2007; Chapman, 2015; Sears & Yates, 2019). Scholars likewise tend to fall into a pattern of not only unifying metro Atlanta as a whole, but also regularly treating this monolithic city-region as a coherent actor with powers, desires and energies. The most sophisticated critical analysis to date (Wong & Bosman, 2014) identifies 'metro Atlanta' as 'the most dominant political and economic actor in the conflict' (p. 584), not only simplifying the 100 municipalities managing water in the city-region to state that metro Atlanta is 'the only major water user in the piedmont' (p. 587), but also using the 'impasse' of the interstate legal conflicts 'to entrench its economic and territorial interests' and greedily 'secure as much water as possible from the ACF' (p. 584). As in Borden's analysis, scholarship on the ACF conflict tends to portray metro Atlanta as a coherent 'global city-region' (p. 589), managed by a group of 'elites' who work to 'claim privileged access to and use the waters of the ACF Basin with little concern for the economic and ecological tolls imposed upon downstream users' (p. 595) through 'relentless suburban expansion' (p. 600),

embodying a reckless 'beggar-thy-neighbor attitude', and hogging the shared resource (Wong & Bosman, 2014).

In treating Atlanta as a monolith, the diversity of water users and their experience with water infrastructure throughout the metropolitan region is ignored. The segregationists who first annexed more land for the City of Atlanta (and successfully advocated for USACE reservoir construction) paved the way for precipitous white flight into the suburbs following the passage of civil rights legislation, leading to one in two white Atlantans moving out of the city over the decade following federal desegregation policies (Kruse, 2007). The agents of the so-called 'thirsty city' territorializing space and consuming continually larger amounts of water are in fact a subset of Atlanta – a subset whose interests and impacts on shared resources affect downstream users both inside and outside the metro.

To highlight the diversity of communities in Atlanta impacted by the ACF water conflict, we must emphasize the continuing prominence of the colour line (Ambinakudige, 2017). As one interviewee explained, it is imperative to recognize 'systemic racism' in Atlanta's waterscape, 'because some communities have cumulative environmental justice impacts, and some communities get to say, "we've got privilege, and so y'all won't even come at us with that"'. While the region as a whole has dramatically 'diversified' in recent decades, this increasing diversity is, perhaps counterintuitively, concurrent with increasing segregation of Black communities that have rapidly suburbanized and expanded, though remaining generally to the south of the metro (Holloway et al., 2012, Wright et al., 2014, Sullivan, 2011, Timberlake et al., 2011). As such, the vast majority of Atlanta's Black population depends on surface water withdrawals from creeks and rivers that are not directly subject to USACE regulation and allocation of impounded waters, but are nonetheless vulnerable to the overuse of water in the ACF basin as well as disparately impacted by downstream flows of pollution.

When Atlanta is portrayed as a monolith, it is subsequently identified with the particular interests of its white flight suburbs with expansive lawns and an elite class advocating for the spatial, economic and territorial interests of this subset (Kruse, 2007). Such a regional imagination of the undifferentiated metro ignores the ongoing segregation and disparities between Black and white metro Atlanta. The disparities of the 20th century have continued into the present. Black communities live downstream of combined sewer overflows and sanitary sewer overflows that have been subject to federal consent decrees for decades (Milligan et al., 2021). The disinvestments and regulatory abandonments that have created these racial disparities were enabled and exacerbated by transportation infrastructure that subsidized white flight to the suburbs (Bullard et al., 2000; Kruse, 2007). Moreover, racial minorities in Atlanta are more impacted by urban flood risk, also exacerbated by the routing of transportation infrastructure through Black communities for slum clearance and segregation (Debbage, 2019; Gaither, 2019). As one environmental leader we interviewed put it, 'in African-American neighborhoods, this stuff – the impact is always worse; it's just kind of how it is, you know?'

The erasure of these racial water disparities in construing the regional conflict with Atlanta as a monolith is one important hydro-racial fix territorialized by this emergent infrastructural region.

6. HYDRO-RACIAL FIX 2: SETTING THE REGIONAL WATER GOVERNANCE TABLE

Portraying Atlanta as a monolith in an infrastructural region also limits the view of water management and water governance to the conflict over USACE allocations and the decision-making around releases from federally operated dams. In fact, a vast number of decision-makers at different scales within the ACF make key governance decisions that are often overlooked in the framing of the infrastructural region and conflict. The ACF Stakeholders (ACFS) is an example of

multiscalar, geographically diverse, and more fleshed out approach to governance that moves forward with an alternative vision of regionalism than the one advanced by the legal conflict with its focus on the federally controlled infrastructure and allocation in the ACF. The focus of the stakeholders is to approach the dynamics of the ACF basin through analysis of scientific data pertaining to how the waters of the basin are utilized, and how they can be sustained for future use by all users. With over 100 members representing Georgia, Florida and Alabama, the ACF Stakeholders, incorporated in 2009, published a Sustainable Water Management Plan in 2015 (ACFS, 2015). Indeed, this effort stands in stark contrast to the regional formation being driven through the 30 years of interstate litigation focused only on USACE decision-makers.

The framing of the infrastructural region in terms of the legal conflict also overdetermines the boundaries between Atlanta and not-Atlanta, so to speak. Water experts and advocates that we interviewed often pointed to the importance of water governance decisions at the urban fringe, highlighting:

> the political economy of this pattern and growth of urban sprawl, which is to say that all kinds of bad politics and unsustainable economic decisions are made, and the vast majority of them are made wherever that fringe is – the geographic fringe of urban growth; that's where the bad politics, unsustainable economic decisions are being made.

Moreover, artificial boundaries between the metro and broader infrastructural region become overdetermined. Many interviewees spoke to this arbitrary sectioning of the ACF basin, including one conservationist who explained that his work:

> explicitly sought to bridge an arbitrary line on a map where the metro water planning district ends on the south side because that arbitrary line cuts off the Flint River headwaters from the rest of river system.

Indeed, the focus on federal decision-making for the infrastructural region often gives cover to policy in this urban fringe of growth that exacerbates the water resource challenges, but does so in a way that evades legal challenges. One interviewee explained how the Georgia governor's Water Supply Program prioritized state funding to cultivate water resources that may impact the ACF, but could avoid legal challenges and assuage fears of potential developers:

> they need the water for all sorts of growth, and they're very specific about needing it for industrial development as a way to lure industry to the region.' Instead of focusing on regionally informed governance decisions, the imagination of the infrastructural region with Atlanta as a monolith and USACE the only important decision-makers encourages governance models that water conservationists see as exacerbating the conflict.

At the same time, the litigation-oriented view of the regional conflict ignores the diversity of water governance initiatives poised to remedy impacts on contested flows. In addition to the ACFS, another initiative, the Upper Flint Working Group (UFWG), commenced in 2013 with leadership from the non-profit American Rivers. The UFWG employs a consensus-based approach to coordinate and cooperate among stakeholders, advocates and utilities. With the goal of ensuring water security and fostering greater social and ecological resilience in the upper Flint River watershed, the UFWG developed consensus around specific goals including work to ensure public water supply and recreational uses as well as initiatives to reduce flood damage, 'incidence of zero flow conditions' and 'frequency and duration of extreme main stem low flows' (Emanuel, 2019, p. 4). With representatives from at least seven different municipal water authorities or utilities and several environmental NGOs and conservation organizations, the members of the working group:

> share a vision of a river system healthy enough to maintain the many social, ecological, recreational and economic values that the Flint River system provides. The group has provided a new and important framework for seeing how the actions of individual organizations and utilities improve conditions at the scale of the entire upper river basin. Many of these actions carry multiple benefits for water utilities and other land and water managers, as well as for local communities and the river's ecological health. (p. 11)

The UFWG provides an example of 'water sharing' and the promise of coalitional and collaborative stakeholder governance to assuage the various and diverse impacts of metro water consumption on the shared ACF basin. Whereas emergent scholarship on 'water sharing' has documented the practices of sharing water that happen at the community and household scale (Wutich et al., 2018), the success of the UFWG demonstrates that, were it not for the interminable legal conflict driving a territorialization of the region that stakes state and metro players against one another, many other pathways to diminishing the water conflict exist. This potential for alternative ways of construing the diverse and multitudinous range of actors across the metro is hidden by the territorialization of an infrastructural region advanced by the legal conflict.

But, drawing on the framework of racial capitalism, we can see that the setting of the regional water governance table also territorializes a second hydro-racial fix. While much literature on environmental injustice has highlighted the exclusion of people of colour from environmental affairs (Gibson-Wood & Wakefield, 2013; Finney, 2014), Atlanta's water sector departs from this pattern with a wealth of Black leadership in water governance, justice and conservation (Milligan et al., 2021), perhaps related to the intense impacts of sewage and urban flooding on Atlanta's Black communities for generations (cf. Scarlett et al., 2021). The West Atlanta Watershed Alliance and Proctor Creek Stewardship Council work on Atlanta's westside watersheds that have been highly impacted by combined sewage overflows and urban flooding, and the South River Watershed Alliance works to protect and improve water quality in the South River, which has been heavily impacted by combined sewer overflows in Atlanta as well as sanitary sewer overflows in DeKalb County. Moreover, ECO-Action, a Black-led environmental organization that has worked for decades to empower communities, established the Atlanta Watershed Learning Network, training a network of community scientists and environmental leaders to address the many challenges and degradations impacting watersheds in minority and, often, low-income communities of Atlanta. Other initiatives, including the Intrenchment Creek One Water Task Force and Intrenchment Creek Stewardship Council, as well as Finding the Flint, highlight the work of racially diverse coalitions of experts and advocates in the field of water governance explicitly working to address racial disparities in Metro Atlanta.

However, neither the ACFS nor the UFWG include the plethora of environmental justice and Black-led organizations addressing water issues inside metro Atlanta. One Black environmental justice leader spoke to frustrations about exclusion from 'the larger scale water problems, statewide', explaining how:

> the white community is in involved in that conversation, but I don't necessarily think that, you know, the black community feels it … everybody [is] just kind of hyperlocal, you know, thinking about the challenges that they have in and around the headwaters … but not really connected to downstream impacts, and how these are cumulative challenges that are going to need stakeholders from all over the state. So, I think there's an opportunity to have a conversation that just, unfortunately, because of the, the hyperlocal nature … we're just not engaged in that.

When journalists and scholars refer to the managers, experts and stakeholders of the regional water crisis, the racial diversity of leadership in Atlanta's water sector is overlooked, subsumed by a narrative of water-hungry subdivisions, developers and elites hogging resources for Atlanta's least diverse northern suburbs. The infrastructural regionalism that has taken root in both

academic and journalistic accounts of Atlanta's position in the ACF conflict typically functions through a kind of synecdoche that identifies the metro with the interests and elite power brokers advancing the sprawling white flight development to the north of the region. This synecdoche functions to elide the tremendous diversity and racial disparities within the metro, but also to render the exclusion of Black leaders from the regional governance table as a kind of common sense. As such, the catalogue of Black-led environmental organizations working on water issues remain relegated to the concerns around environmental justice *inside* the metro. The consequences of the regional water conflict are rarely articulated in relation to Black communities downstream of the USACE infrastructure conflict most pertinent to the northern suburbs. What is more, Black leaders addressing pollution and flooding in the city are not present at or invited to the regional water governance table, so to speak, under the 'common-sense' assumption that their work is not pertinent in the regionalization stemming from the conflict over massive infrastructure impoundments, imagined to be a conflict between Florida's oyster industry, south Georgia and Alabama farmers, and the elite of the sprawling, thirsty metro. It is as if the vision or territorialization of infrastructural regionalism arising from the interstate conflict is allergic to acknowledging racial difference within the metro, while concerns about racial difference are fixed to specific locales but excluded from regional scale discussions.

7. DISCUSSION: WITHOUT RACE THE SPATIOTEMPORAL FIX IS NOT ENOUGH

We integrate hydrosocial and racial justice perspectives with the literature on infrastructural regionalism to examine Atlanta's position in the so-called tri-state water wars between Alabama, Georgia and Florida. While academic and journalistic accounts tend to highlight the decision-making at the federal dams by the USACE as the only significant sites of regional governance, we draw from interviews and document analysis to elucidate a much more complex web of actors and decision-makers in the ACF, particularly differentiating between those who benefit and those who suffer from Atlanta's water policies and predicaments. Our qualitative data also provide contrast to a persistent portrayal of Atlanta as a singular, monolithic entity, perched in the upper part of the basin and threatening to deplete or exhaust flows for downstream users. Our research highlights how this portrayal of Atlanta as a monolith hides how the conflict impacts different communities within Atlanta. Similarly, academic discourses and media coverage both tend to portray Atlanta as a singular, monolithic entity, downplaying the intense unevenness, inequality and racial disparities in relation to water infrastructures within Atlanta. Our analysis situates Atlanta in the hydrosocial space of the ACF conflict to demonstrate how particular discourses around federally controlled infrastructure limit the views of the public, managers and academics on the nature and regional dimensions of the dispute.

We use our analysis of qualitative data, policy and legal documents, and journalistic accounts of this regional water governance conflict to read against two important academic treatments: Skye Borden's *Thirsty City* (2014) and Wong and Bosman's (2014) essay on 'spatial displacement and temporal deferral' in the ACF. Borden provides a nuanced portrayal of racial drivers of and disparities resulting from water infrastructure in 20th-century Atlanta, but this nuance is dropped when the analysis turns to the regional conflict. Moreover, her text does not provide an analysis of the political economy of capitalism that shapes the growth and strain on water resources resulting from Atlanta's rapid economic development.

Employing the hydrosocial concept of 'hydropolitics', Wong and Bosman (2014) provide the only critical political–economy analysis of the ACF interstate water conflict to date, advancing critique beyond a shallow technocratic framing that refuses to acknowledge capitalist drivers. Using David Harvey's concepts of spatiotemporal fixes, crisis switching, and accumulation by dispossession in a framework that centres capitalist growth and crisis, they challenge

'conventional approaches' to the ACF conflict that ignore neoliberal capitalist accumulation via territorial expansion (Wong & Bosman, 2014). Capitalism's contradictions are often heightened when crises such as the tri-state water wars emerge and threaten to halt global capital circulation. Such crises are not an aberration, but rather a necessary, recurring feature of capitalism, and the spatiotemporal fix refers to the tendency of capital to sublate crises by moving to new physical spaces and deferring issues temporally in order to revive the halted accumulation. Reading 'spatiotemporal fixes as water accumulation strategies', Wong and Bosman (2014) argue that Atlanta 'gamed the system' while dramatically increasing its consumptive use of water from the AFC basin. Attributing Atlanta's growth and increasing water supply demands to capital's drive for subjugating new spaces and populations as resources, they read Atlanta's increasing water demands as a form of 'accumulation by dispossession' or 'fraudulent appropriation of something for nothing'.

However, without race, this analysis of the water conflict distorts our understanding of the ACF as an emerging infrastructural region of racial capitalism. By framing a singular *Atlanta* as the 'most dominant political and economic actor in the conflict', and by hailing the USACE water managers as the only important actors in water governance, Wong and Bosman (2014) fail to articulate the immense differences in the experience of water users across the metro region, but also erase the vast and diverse landscape of water governance decision-making of significance throughout the basin. By treating Atlanta as a monolithic, territorializing agent, Wong and Bosman have thus deemphasized this vast spatial and racial heterogeneity, contributing to the erasure of Blackness in Atlanta, an erasure that is being rescaled and reterritorialized to absent Black concerns and leaders from regional governance decision-making.

To rectify this problem, we expand the spatiotemporal fix to demonstrate how territorial acquisitions of access to water resources in Atlanta's suburbs also functioned as important racial fixes that facilitated disinvestment in and disrepair of water infrastructure in Black communities. Examining the case of Atlanta's positionality in the emergent, contested and dynamic territorialization of an infrastructural region fixed by the ACF conflict, our analysis extends hydrosocial concepts with a theory of racial capitalism expanding Harvey's (1981, 1982, 2003) spatiotemporal fix through consideration of the hydro-racial fix.

8. CONCLUSIONS

In this paper we combine work on the hydrosocial with infrastructural regionalism to better characterize regional transformations motivated by the ACF regional water conflict. We demonstrate that particular conceptions of the region diminish the diversity of communities, intra-metro conflict and decision-making positions within metro Atlanta. In construing Atlanta as a monolithic city-region, discourses on the regional conflict erase this difference and diversity, identifying the metro as whole with elite power brokers advocating for majority white suburbs whose rapid expansion during the period of intense white flight in the wake of the civil rights movement led to the disputes over allocation of waters impounded by Buford Dam.

The regional formation emerging from the legal dispute tends to foreground management decisions and protocols of the USACE as the only management decisions of consequence. Such an emphasis ignores the important work of coalition and stakeholder governance conducted by groups such as the UFWG and the ACFS. Against the trope of 'thirsty city' that reifies the Atlanta metro as a monolithic city-region, we highlight the diversity of populations within the metro and the diverse array of governance interventions that can be obscured by a technocratic regionalism that focuses entirely on the USACE and water governance decisions that have been the subject of interstate litigation. By combining hydrosocial analysis with scholarship on infrastructural regions under the rubric of racial capitalism, it becomes clear that the ACF conflict is both driven by racialized development and difference in metro Atlanta, and that the

territorialization of the infrastructural region emerging from the conflict also rescales and reinforces hydro-racial difference.

When one includes the racial dimension of Atlanta's place in the ACF conflict in terms of the spatial fix, it is possible to better conceive of the role that governance responses to the water crisis are playing to reterritorialize race. For a final example, the biggest investment by the City of Atlanta in water supply and to reduce the chances of a future 'day-zero' is currently displacing historic Black communities with the gentrifying effects of the opening of Westside Park. Despite warnings from practitioners (Hoffner, 2017) and concerns among key stakeholders interviewed in this research, green gentrification is not being adequately addressed in Atlanta. The city invested US$44million to develop this greenspace, now the largest in the city, around the abandoned Bellwood quarry, which has been retrofitted as a reservoir for 2.4 billion gallons of emergency water supply. The park is at the heart of some of the most rapidly gentrifying neighbourhoods in one of the fastest gentrifying cities in the United States. Thus, another infrastructure fix to the water supply crisis offers another round of, importantly, *racialized* capitalist accumulation through environmental gentrification and displacement of historically Black communities – yet another emerging hydro-racial fix in the long history of racial formations and deformations of capitalism in Atlanta.

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