CONFLUENCES OF RACE AND NATURE IN THE ALTAMAHA RIVER BASIN:

RIPARIAN ASSEMBLAGES OF TERRITORY AND DIFFERENCE

by

RICHARD ANTHONY MILLIGAN, JR

(Under the Direction of Nik Heynen)

ABSTRACT

Rising from urban headwaters in metro Atlanta and Athens, Georgia, the Altamaha is a large river system. Its catchment lies entirely in the state of Georgia, drains an area of roughly 14,000 square miles, making it one of the largest single contributions of freshwater to the Atlantic on the east coast of the United States. This dissertation is a study of the confluences of race and nature in the Altamaha River Basin. I approach the discursive and material qualities of race and nature in this basin as ontologically connected, emergent, and shifting in territorial assemblages. In this dissertation, I demonstrate the particular ways that race and nature are co-constituted in the territorialization of the Altamaha River System. I demonstrate how the organization of space into territory discursively and materially shapes configurations of race and nature. Conversely, the organization of race and nature, as powerful sets of ideas that order how people interact with each other and the environment, frame the production and expression of territory. In particular, this dissertation explores the growing institutionalization of community-based watershed and river advocacy groups in the governance of surface waters and riparian environments. Framing the growth of these organizations not simply as a recent development in the U.S. environmental movement, my research with four Altamaha-based organizations

suggests that we understand the nation-wide proliferation of such organizations as an innovation in the technology of water governance supported by federal, state, regional, and municipal agencies. While approximately forty percent of the three million people living in the Altamaha Basin are African American, my research shows that a persistent lack of minority representation in this innovative form of governance exacerbates inequalities in the Altamaha's racially differentiated landscape including disproportionate exposures to environmental risks and uneven access to the benefits of environmental regulation. The broader impacts of this dissertation include the identification of key barriers to fostering greater racial diversity in main stream river and watershed groups as well as successful strategies employed by the South River Watershed Alliance in DeKalb County to address racial bias in water governance.

INDEX WORDS: Rivers, Political Ecology, Race, Territory, Biopolitics, Environmental Justice, Water Governance

CONFLUENCES OF RACE AND NATURE IN THE ALTAMAHA RIVER BASIN: RIPARIAN ASSEMBLAGES OF TERRITORY AND DIFFERENCE

by

RICHARD ANTHONY MILLIGAN, JR

BS and BA, University of Georgia, 2002

MA, University of Saskatchewan, 2007

A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF PHILOSOPHY

ATHENS, GEORGIA

2016

CONFLUENCES OF RACE AND NATURE IN THE ALTAMAHA RIVER BASIN:

RIPARIAN ASSEMBLAGES OF TERRITORY AND DIFFERENCE

by

RICHARD ANTHONY MILLIGAN, JR

Major Professor:	Nik Heynen
Committee:	Hilda Kurtz
	Joshua Barkan
	Jennifer Rice
	Bruce Braun

Electronic Version Approved:

Suzanne Barbour
Dean of the Graduate School
The University of Georgia
December 2016

DEDICATION

This work is dedicated to the members of the Georgia River Survey and all the many family, friends, and colleagues who have supported our efforts to better understand and advocate for rivers in Georgia.

ACKNOWLEDGEMENTS

This research would not have been possible without the participation and collaboration of hundreds of environmentalists working to protect and restore Georgia's rivers and watersheds. The critical edges of this dissertation must be prefaced with a heartfelt acknowledgement of the skillful dedication, shrewd tenacity, and cultivated by this environmental movement in geographies of care for rivers. I want to sincerely thank all the environmental professionals, community organizers, and volunteers who talked with me about rivers and trusted me to inquire into complex and sensitive matters of race in their organizations and lives. Particularly essential to the understandings I have gleaned about environmental politics addressing rivers in Georgia were Jessica Sterling, April Ingle, Jackie Echols, Chris Manganiello, Jesslyn Shields, Deborah Sheppard, and Bruno Giri, who have each shared decades of experience and wisdom on what it means to think and care about rivers, but also how such care connects with institutions of environmental governance.

Despite persistent forms of institutional discrimination including racist policies banning undocumented students, the University of Georgia has provided a stimulating, challenging, and enriching intellectual space for academic growth and professional development. I am deeply grateful for the genuine, sustained engagement of colleagues and mentors throughout the university, and particularly the Department of Geography, whose faculty and students honor a commitment to fostering a collegial and productively challenging research environment. I am keen to thank the students and faculty who contributed to productive and challenging graduate

seminars held by Ron Bogue, Josh Barkan, Pete Brosius, Chris Cuomo, Kelly Happe, Andy Herod, Nik Heynen, Steve Holloway, Hilda Kurtz, and Amy Ross.

I am very thankful for the ample support provided by the members of my committee, for the expertise and direction they have provided, but also for the candor, honesty, and anxieties they have been willing to share. I am especially thankful that their generous encouragement and reassurances did not preclude pushing me to focus my thinking, refine research methods, and clarify my writing. Many fellow students have contributed to this project and challenged me to aspire to a high bar of intellectually honest and politically responsible research they have labored to establish. Levi Van Sant, Claire Bolton, Stan Underwood, Seth Gustafson, Ellen Kohl, Priscilla McCutcheon, Jake Macdonald, Catarina Passidomo, Brian Williams, Alysen Wade, Dani Aiello, Heather Gallivan, and Sara Black have each particularly helped me to read geography and social theory more astutely, and our conversations have been essential to working out ideas and reckoning with complexities.

Dr. Robert Saveland has provided generous support for travel to attend national conferences, and his friendship has given me courage and joy as well as valuable insights about the history of the discipline from his 75 years of experience writing, teaching, and doing geography. Thanks to the Social Sciences and Humanities Research Council of Canada for a doctoral fellowship that funded this research, and to the Graduate School at the University of Georgia that supported this research with an assistantship and diversity research scholarship.

For teaching me how to get out on the river and first inspiring me to learn about natural environments, I am deeply indebted to Ken Suttles and Jeremy Tarver, who first showed me what it meant to think deeply about place. In addition to acknowledging his expert cartographic assistance, I thank Dean Hardy for decades of devoted companionship, for decades of reading

and thinking together, for sharing his wide-ranging talents and insights, for the unwavering support and genuine kindness of the dearest kind of friendship. I am obliged to acknowledge the profound impact that Bryan Nuse and Ben Emanuel have had on my life and my studies, from teaching me to hear the birds and see the plants to allowing me to apprentice in their humble, awe-filled, and tremendously sober curiosities and earnest desires to know nature. This research has been inspired and influenced by Tyler McCreary, who first introduced me to critical geography, and who has taught me more than he can know in the past ten years of political and academic collaborations.

My parents and siblings have always been there to support and encourage me through many years teaching and learning. Our shared passions of teaching, learning, reading, and arguing continue to guide and inspire me as educator and scholar. The Nuse and Emanuel families have also encouraged and inspired me in their support of many efforts over the years to learn about rivers and work towards a more environmentally sustainable and socially just society. Last and most, I cannot thank Nik Heynen enough for the abundant time, energy, and patience he has devoted to the development and completion of this project, and for the political, intellectual, and professional mentorship he has afforded me. Beyond providing spectacularly astute, attentive, and engaged advice on how to do political ecology, Nik has apprenticed me in the joy and labor of disciplinary, departmental, and political dedication, and I must also, finally, thank the Heynen family for treating me with the kindness and care usually reserved for the dearest of friends.

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER 1: INTIMATIONS OF THE ALTAMAHA

1.1 Intimations of the Altamaha

This dissertation is a study of the confluences of race and nature in the Altamaha River Basin. I do not aim to discover a stable underlying social or ecological truth about people and rivers. Rather I approach the discursive and material qualities of race and nature in this basin as ontologically connected, emergent, and shifting in territorial assemblages. Recognizing productive systems are necessarily dynamic enables me to track the dynamic interactions of the social and ecological within the Altamaha. In this dissertation, I demonstrate the particular ways that race and nature are co-constituted in the territorialization of river systems. The organization of space into territory discursively and materially shapes configurations of race and nature. Conversely, the organization of race and nature, as powerful sets of ideas that order how people interact with each other and the environment, frame the production and expression of territory. Instead of a singular truth about race and nature, I engage multiple, overlapping configurations of race in connection with the Altamaha River. In this introduction, I provide some coordinates to orient my intellectual project. I provide an outline of the conservation discourses about the Altamaha River, the academic literature on race and nature, and my application of theories of bodily difference to the riparian areas of the Altamaha. I conclude this chapter with an overview of the dissertation and summary of how I build my argument through the dissertation.

The Altamaha is the largest river system in the U.S. state of Georgia (Figure 1.1) and the third largest on the east coast of the U.S. (Craft 2012). Except for three impoundments in the upper reaches of its two principal tributaries, the Oconee and Ocmulgee Rivers, the Altamaha's

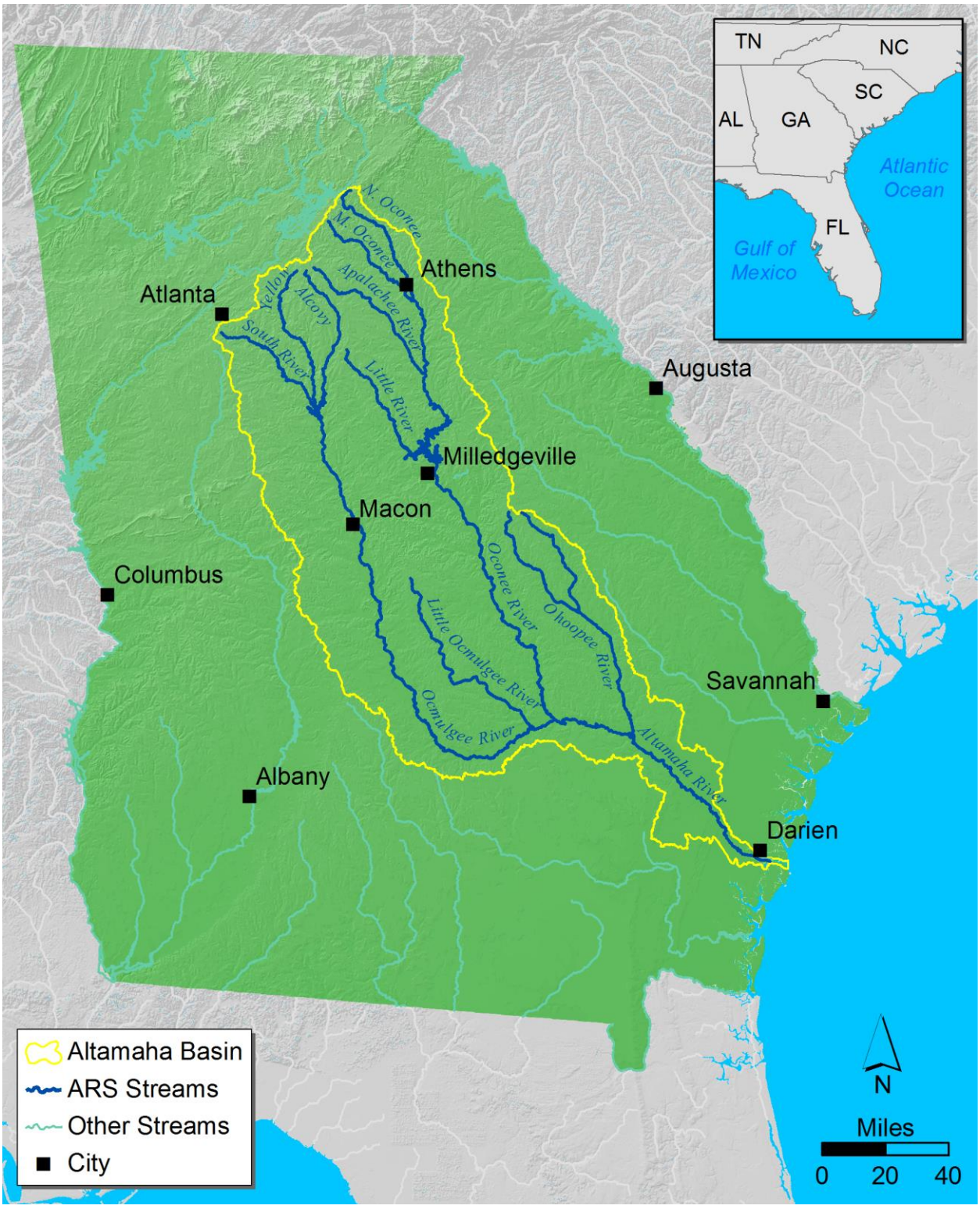

Figure 1.1: Principal Tributaries and Watershed Boundaries of the Altamaha River Basin

flows are remarkably unimpeded by dams compared to other large hydrologic systems east of the Mississippi River (TNC 2005; Nuse et al 2015). The headwaters of the Altamaha draw from the densely populated metropolitan areas of Atlanta and Athens, Georgia, before passing through smaller cities on the fall line—the physiographic boundary between the Appalachian piedmont and coastal plain—and then through areas of some of the lowest population density in the state (Figure 1.2). The entire drainage—about a quarter of the total land area of the state (roughly 14,000 mi^2)—is contained within the U.S. state of Georgia (Nuse et al 2015). Beginning from the subcontinental divide near the world's busiest airport, Hartsfield-Jackson Atlanta International Airport, flows of water in this system pass through the fall-line cities of Macon and Milledgeville, central cities in the plantation economies of 19th-century Georgia, and continue to swell for 470 miles as they travel to the Atlantic Ocean. At its mouth, the Altamaha braids out into a distributary before opening into one of North America's largest and biologically productive salt marshes (TNC 2005). The hydrologic system that culminates in the distributary of the Altamaha River transports 3.2 trillion gallons of water to the Atlantic Ocean every year, making it the largest river discharge on the U.S. eastern seaboard south of the Chesapeake Bay. Racial difference is neither inherent to human bodies, nor merely social construction; instead it is materialized through social, economic, and environmental relations. Thus, to study the confluences of race and nature in the Altamaha is to trace how race and environments are mutually constituted, such that the river itself is racialized along with the people who live and interact with it. To register the complex intersection of race and nature in the Altamaha Basin, I begin with some intimations of the Altamaha as a river system addressed by and invested in through practices of conservation and environmental governance. Large river systems like the Altamaha develop extensive floodplains characterized by disturbance-dominated ecosystems

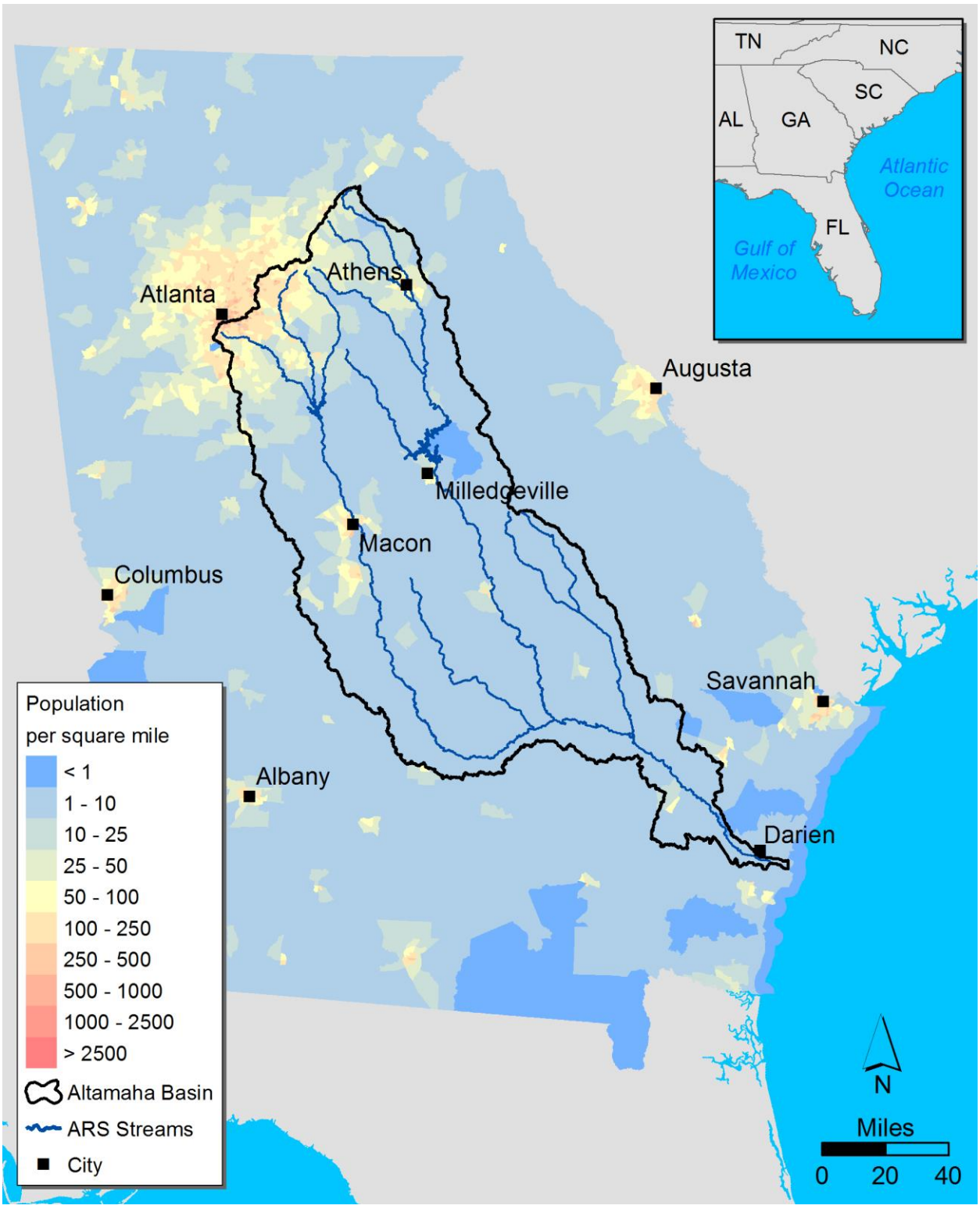

Figure 1.2: Population Density in Altamaha River Basin

whose species composition and diversity depended upon hydrologic connectivity throughout the system (Tockner and Stanford 2002). Unlike the highly regulated hydraulics of other major river systems east of the Mississippi, the Altamaha's flows run over its banks regularly, spilling into and constantly re-shaping an extensive, ancient, and highly dynamic floodplain, a geomorphic assemblage of sloughs, oxbows, sand hills, and avulsions that sustain extensive hardwood bottomland swamps. Ecologists attribute the heterogeneity and diversity of floodplain ecosystems in large river systems like the Altamaha to the profound spatio-temporal dynamism of the "riparian zone," a zone of indeterminacy between aquatic and terrestrial habitats that arises from the periodic rise and fall of surface waters occasioned by high and low flows.

Recent developments in the study of river ecologies employ the "flood pulse concept" to emphasize the diversity and dynamism of the riparian zone in flood plains of large hydrologic systems (Junk et al 1989). As opposed to a way of seeing the Altamaha as a sustained average base flow with fluctuations, thinking the Altamaha as rhythmic flood-pulses highlights the periodic high and low flow events as moments of connection and disconnection with riparian environments. While other rivers on the east coast of the U.S.—the Susquehanna and Connecticut, for examples—transport more freshwater to the Atlantic than the Altamaha, these rivers are highly regulated by impoundments. A series of dams along each of these river systems introduces a series of breaks in the hydrologic connectivity, tending to decrease the dynamism of high and low pulses of water through the system, and restricting the range of indeterminate riparian zones in their floodplains. This reduction in spatio-temporal dynamism of flood in turn decreases the variability and diversity of spaces in the floodplains that are in communication with flows through the river system (Junk et al 1989; Tockner et al 2008).

For most conservationists and environmental scientists, the Altamaha River Basin refers to a region of hydrologically interconnected places including globally significant sites of ecological value (TNC 2005; Ray 2011; Weston et al 2009). The value of these sites in terms of biodiversity and conservation science are associated with the paucity of impoundments in the system. The link between this hydrologic attribute of connectivity and the biological diversity and productivity of the Altamaha can be explained by the "flood pulse concept" an epistemological tool developed in order to account for the peculiar biological productivity and diversity of riparian spaces of large hydrologic systems (Junk et al 1989; Tockner et al 2008). The "pellucid floods" (Bartram 1996) of what conservationists are fond of calling Georgia's "little Amazon" (MMRC 2011; Ray 2011) sustain riparian and estuarine environments of global conservation significance (TNC 2005; Tockner and Stanford 2002). According to ongoing inventories by conservation scientists, Altamaha-dependent ecosystems are characterized by remarkably high biodiversity with more than 120 rare or endangered species and nearly a dozen species endemic to the river system (TNC 2016). Because of qualities suggested by the flood-pulse concept, the extensive reaches of the Altamaha Basin and the magnitude of its relatively unregulated flows are matters of significant consequence to paradigms shaping its environmental governance today.

Interviews with river ecologists and advocates emphasize how the flood-pulse concept is an important means of seeing the river from the perspective of conservation science and environmental advocacy. I, too, have known the Altamaha as an environmental scientist. I have spent more than 10,000 hours in the aquatic and riparian spaces of fluvial connections bound up with the flood-pulses of the Altamaha, sometimes as an ecological technician or field instructor and other times as a volunteer, participant, citizen scientist, or qualitative researcher with one of

the many groups of people working on river or watershed conservation in the Altamaha Basin. My knowledge of natural history is tied to experiences studying or sampling rivers and watersheds that compose this river system. Between 2004 and 2010, I spent more than 10 weeks doing intensive ecological fieldwork in the riparian zone and estuary of the Altamaha as a founding member of the Georgia River Survey (GARS). Working with GARS meant weeks at a time camping on sandbars and riverbanks, canoeing from site to site and keeping continuous logs of water quality, avian communities, human developments, and botanical populations as we traveled between sites every five river miles where we conducted avian point counts; sampled aquatic and benthic invertebrates; and painstakingly documented floodplain botanical communities and riparian forest structure in the riparian zone of the Altamaha's flood pulses (Emanuel et al 2005).

As such, this research addresses an entity with which I have considerable scientific intimacy and personal experience. I have canoed all of the navigable reaches of the Altamaha and its principal tributaries. If a songbird sings in the Altamaha Basin, I can almost always tell what species it is. I have known the Altamaha the way you get to know it pacing off hundreds of transects through the swamp with a dangling and clattering assemblage of tools for ecological assessment: binoculars, compass, clipboard, clinometer, density cloths, measuring tapes for measuring the diameter breast height of trees. I have known the Altamaha the way you get to know it by crouching over a quadrat to count the stems and measure the height of "known" plants, or sweating and swatting away mosquitoes while scrutinizing "unknowns" with a field glass and dichotomous key.

But there are many ways of knowing a river, a theme that Langston Hughes (1921) develops poignantly in one of his earliest published poems, "A Negro Speaks of Rivers," in

which he works to disrupt stereotypes about African-American identity, environmental knowledge, and identification with landscapes. The speaker of Hughes poem plays off assumptions—still salient today—that environmental knowledge and concern are limited to the province of educated, white subjects. The refrain of "I, too, have known rivers" stages a confrontation with differences hidden by universal notions of "man in nature" imagined to lie at the heart of "human-environment interactions," and raises questions about how practices of "knowing" rivers have deep histories freighted with colonial and racial epistemologies. Hughes' poem indexes a problem that shapes commonsense delineations and even experiential engagements with the sensuous materiality of entities like a river.

Building from and countering the intimate but particular ways I have known the Altamaha River, I question how conservation science and environmental discourse about what constitutes the Altamaha elide the differential modes of knowledge and power that allow us to think of a river as a single, knowable thing, about which we can either have or lack knowledge. As Hughes' poem suggests, knowing a river, despite environmentalist discourses often suggesting otherwise, is a racially constituted and differentiated process.

The research presented in this dissertation argues that environments are neither ahistorical nor apolitical sites for the production of ecological knowledge and the practice of conservation or other forms of environmental governance (Robbins 2004). Environments and the entities understood to populate them have histories, and the biophysical materiality of hydrologically connected socio-ecological systems is itself a political matter (Braun and Whatmore 2014; Barad 2007). Put simply, this dissertation examines how race and nature have shaped the Altamaha River Basin (ARB). Understanding the entanglements of race and nature, however, requires us to think of the ARB as a territorial assemblage, by which I mean that both

the river and race are not ontologically given or stable entities. I argue for the need to understand race, nature, and territory as mutually constitutive. The focus of conservationists and environmental science on the Altamaha as a hydrologically intact, large river system values the riparian ecosystems that its flood pulses sustain. However, in centering one element of the river system idealized as indexical of an intact nature, other human interactions with the river are obscured. The project of protecting an intact, dynamic river nature does not extend into the Altamaha's urban headwaters. This is a significant omission, as the urban headwaters of the Altamaha not only include its the most highly degraded flows, but also conduct toxic metals and dangerous sewage through one of the largest African-American suburbs in the U.S. (EPA 1998a, 1998b). Recently surpassing Chicago as the "second city"—the city with the second largest African American population in the U.S.—Atlanta has come to be known as "Black Mecca," and south DeKalb County, the uppermost reaches of the Altamaha basin, is the single largest destination in the U.S. where African-Americans have moved in recent decades (Kromm 2011; Lloyd 2012). Thus, the conservation movement's focus on maintaining an intact watershed downstream—a nature abstracted from people—screens from view the hydrologic concerns most directly impacting black communities.

Compelled by pragmatic concerns about racial disparities in environmental governance, my research assesses the growing institutionalization of community-based watershed and river advocacy groups in the governance of surface waters and riparian environments in the U.S. I argue that the emergence of thousands of such water-based NGOs across the U.S. in the past twenty years is not simply a recent development in the U.S. environmental movement. In-depth studies of Altamaha-based organizations demonstrate how the nation-wide proliferation of such organizations might be better understood as an innovation in the technology of water

governance, an innovation supported by federal, state, regional, and municipal agencies, and indeed cultivated to address the scalar complexities of managing water resources. So, while these organizations typically frame their work antagonistically, that is, in opposition to recalcitrant government agencies unwilling or unable to apply environmental law, this dissertation encourages us to see contemporary water governance as the conjunction of government regulatory agencies with grassroots watershed and river advocacy groups.

Incredibly low rates of minority inclusion in these organizations means that water governance happens more for some communities than it does for others, and racial minorities in the Altamaha face disproportionate exposure to the pollution and toxins that flow through the basin. While approximately forty percent of the three million people living in the basin are African-American (Figure 1.3), there is a profound and persistent lack of minority representation in mainstream Altamaha-based river and watershed groups. As such, the institutionalization of these organizations—in conjunction with regulatory agencies—exacerbates inequalities in the Altamaha's racially differentiated landscape. The results of my research demonstrate that recent innovations in environmental governance of rivers and their watersheds tend to reinforce disproportionate exposures to environmental risks and uneven access to the benefits of environmental regulation. While the lack of racial diversity and inclusion is an issue of genuine concern for people involved in the environmental governance of the Altamaha, efforts to foster greater diversity have not met success. Contrary to the reasons for these failures supposed by people I interviewed, my results identify some key barriers to fostering greater diversity in the normalized ways white people have come to know and "connect" with rivers through environmental activism and recreation. Canoes trips and environmental surveys in this framing become sites for the performance and reproduction of riparian whiteness, and environmental

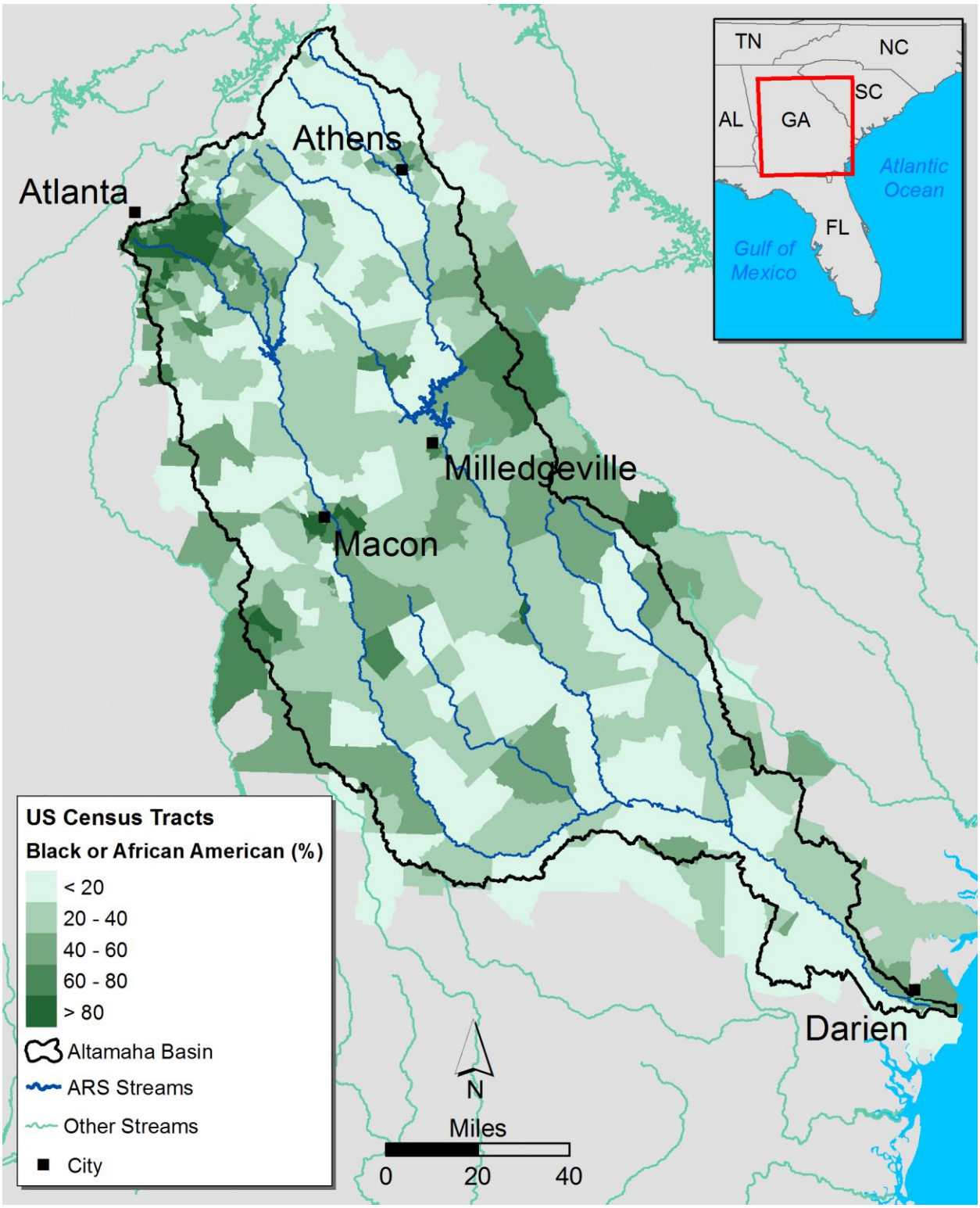

Figure 1.3: Percent Black Population in Altamaha River Basin

practices of mobilizing community engagement create and consolidate differential access to the benefits of environmental regulation for black bodies. Recognizing the viscosities of riparian whiteness inverts the problematic of black inclusion. Rather than asking how can organizers incorporate more black people in the conservation movement, it remains necessary to ask instead how whiteness is normalized, reproduced, and immunized against racial differences through everyday practices of environmentalism.

The chapters that follow document my approach to this problem through five years of research and present a necessarily partial answer to the question of how race and nature are constituted together in the Altamaha River Basin. I argue that we must address questions of nature as fused with questions of race that underlay and inform how we think about political ecologies and environmental justice. My theoretical and methodological approach to this research supposes that unearthing the politics of race in the materiality of the Altamaha necessarily entails geographically examining the performance of the Altamaha in the materialization of racial difference constituting this territory of the U.S.

1.2 Critical Approaches to Race and Nature

This project builds upon the influential work in geography and cognate disciplines furthering how we understand and regulate human-environment interactions with rivers. I situate my research on the Altamaha in relation to two prominent critical approaches to research on society and nature: political ecology and environmental justice. As a political ecology attuned to the displacements of race that haunt environmental thought and governance, this research on the Altamaha contributes to the work of geographers at the forefront of understanding how the implementation of environmental science, policy, and advocacy produces racially differentiated outcomes. My project works at the edges of a gap in scholarship on so-called human-

environment interactions. On one side of this gap, there is political ecology, a field working to explain how social, political, and economic forces shape our understandings and responses to environmental problems. While works by Bruce Braun (2002) and Jake Kosek (2006) exemplify political ecological scholarship attuned to the racial difference, even this racially attuned political ecology remains discernibly disconnected from environmental justice research. This research on the Altamaha was designed and conducted with the intent of working the theoretical, methodological, and political edges of this gap between political ecology and environmental justice research, which focuses on the limited participation of people of color in environmental affairs and how bias results in disproportionate exposure of nonwhites to environmental harm.

Building from Robert Bullard's classic *Dumping in Dixie*, environmental justice scholars have made it clear that environmental problems, from exposure to toxins in the air, water, and soil to vulnerabilities to natural hazards like floods, heat waves, and water shortages, are unevenly and unjustly meted out to the poor and racialized minorities of the population. Twenty years ago, Pulido (1996) established the paradigmatic consensus that the disproportionate exposure of people of color across the U.S. typically has very little to do with intentional racism—something like the purposeful siting of hazardous facilities in minority communities—but much more to do with the historical geographies of urbanization, segregation, and a more diffuse production of what we might call "racialized space." More recently, environmental justice scholars have become increasingly attentive to what Kurtz (2009) refers to as the "racial state"–structural formations embedded in governance that help account for the "deep histories" and "slow violence" of environmental injustice. Drawing on geographies of race and nature (Braun 2002, Kosek 2006, Baldwin, Cameron, and Kobayashi 2011), this project sets about destabilizing the identity of the river system as an ontologically given object, recognizing that

such identities as external nature and wilderness are not only socially produced, but that the very materiality of the river system is best understood through a concern for "social natures," "naturecultures," and the relations of affect assembling humans together with a "more-than-human" world (Latimer and Miele 2013; Whatmore 2013). Each of these terms refer to ways at getting at the materiality of nature despite the profound and enduring dualism operating between the *human* and the *nonhuman* in Western thought. This approach to nature-society research brings paradigms for understanding political ecology and environmental injustice into greater accord with trajectories in physical and biological sciences, where "material phenomena are increasingly being conceptualized not as discrete entities or closed systems but rather as open, complex systems with porous boundaries" challenging "earlier distinctions between physical and biological systems, drawing attention to their interaction and transforming the way scientists think of biological matter and its imbrications in the social" (Coole and Frost 2010, 15-16).

Oriented by these broad theoretical debates in nature-society scholarship and employing geographic methods for examining the political stakes of social natures, I have approached the Altamaha, not as a non-human environmental system ontologically distinct from its human connections. Neither have I approached the Altamaha as an example of recalcitrant nature limiting and pushing back against capitalist growth and ecological fixes, nor as a nonhuman actant in a network of human and nonhuman actors. Instead, I approach the Altamaha as a critical and contested juncture in a global assemblage of racialized knowledge, practice, and embodied differences. These choices position this project in a gap between geographic research on political ecology and environmental justice. In the next section, I outline my approach to territorial assemblages of riparian bodies in fluvial space. These theoretical tools help to understand the complex political relations between environment and race particular to the

Altamaha Basin, but they also, more broadly, suggest ways to narrow the gap between environmental justice and political ecology research.

1.3 Territorial Assemblages of Riparian Bodies in Fluvial Space

In order to diagram materializations of race and environment as "global assemblages constituted *through* bodily difference" (Slocum and Saldanha 2014: 7), I examine confluences of race and nature occasioned by the flood pulses of the Altamaha using the concepts of territorial assemblage, riparian bodies, and fluvial space. In part, by problematizing the labor of the hyphen connecting humans and environment in a framework of interaction, I examine ties that bind race to rivers in the Altamaha Basin—binds that naturalize paradigms of environmental governance that exclude people of color and tend to occlude racial differences and dimensions of environmental problems. Developing theoretical tools attuned to working the edges of a gap in geographic scholarship between political ecology and environmental justice, I explicitly begin by conceptualizing what riparian has got to do with race. This enables understanding of how environmental governance of riparian environments in communication with flood pulses of the Altamaha produces racially differentiated outcomes, as well as how people in Atlanta navigate the swampy ground of political interventions to combat environmental racism.

Territorial assemblage is a concept developed by Deleuze and Guattari (2009) to investigate the material world and orient experimental, empirical, and political engagements with reality. Drawing from scholars in feminist and black studies who have further developed this concept, I use territorial assemblage to break from dialectical and critical realist ontologies or philosophies of what exists. The assumption at the heart of this concept is that the material world does not exist as a collection of discrete identities. Instead, entities that appear to have a relatively stable, material existence only ever achieve such differentiation from the chaos of being through a framing of the earth. The chaos of interrelations that constitute being

differentiate into identities through technological apparatuses, rhythmic repetitions and pathways that amount to territorializations and also contain the potential for deterritorializations.

Territorial assemblage designates an ontological position about rivers and race that focuses this dissertation on active experimentation with the "explosive corporeal productivity" of the Earth (Casarino 2002) rather than situating this writing in the disjuncture of contemplative representation (philosophy, thought) from the world of actions and affect (politics). Territorial assemblage refers to an ontology of things that exist in changing relation as opposed to identities that interact:

> … the world does not consist of discrete 'things' that are brought into relation through some sort of external determination (such as found in versions of dialectics), resulting in hybrids that are mixtures of pre-given pure forms, but instead consists of flows and connections within which things are continuously (re)constituted. … Whereas the [ontology of form and essence] brings us to the problem of understanding how distinct things 'interact,' the [ontology of flows and connections] asks how it is that things come to attain provisional form and a certain durability. (Braun 2004, 171)

I further draw on Deleuze and Guattari (2009) to conceptualize bodies as entities that can be understood not as identities with essences, but as unknowns with differential capacities to affect and be affected by other bodies. Riparian bodies, in this dissertation, therefore, refers to entities coupled through relations of affect with the flows of surface water through the Altamaha Basin. Some bodies, in African-American neighborhoods in Atlanta, for example, are connected with toxins by the Altamaha's flood pulses, while others, in bottomland swamps on the lower Altamaha, are connected with nutrients sustaining biodiversity; some bodies are connected with rivers and watersheds through environmental governance, while others are abandoned to the absence of environmental regulation.

The concept of territorial assemblage allows this research to examine the differential connection of riparian bodies in fluvial space, bodies whose individuation is an affective border-making constitutive of both interiority and exteriority, intimacy and extimacy (Deleuze and Guattari 2009, Grosz 2009). This project builds on and critiques theories of biopolitics by using territorial assemblage to think through how riparian bodies are connected differentially in fluvial space by the flood pulses of the Altamaha Basin. My approach explicitly draws links between social natures research, critical race theory, and Foucault's concepts of biopolitics and governmentality. In the juncture of these literatures, politics is not merely the name for human contests over a set of material essences that make up environments; rather, politics names the processes that disclose the materiality of environment along with the subjects understood to be *environed*. So, I begin from the premise that knowing nature is a political enterprise, and, conversely, that the facts of environment are themselves political entities whose materiality is best thought as achievement and effect of power. To quote Braun and Wainwright (2001), "how nature comes to be stabilized as an object of knowledge has concrete effects, both social and ecological" (41).

1.4 Navigation

Chapters 2 and 3 present the theoretical and methodological bases of the research questions, empirical engagement, and analysis. Methodologically, this research is bound to the twin movements of genealogy and deconstruction in the works of Michel Foucault and Jacques Derrida, respectively—movements away from critical realist approaches to *materialism* that insist on the role of theory and priority of politics even in the moment of empirical observation (Barad 2003, 2007; Ceasare 2002; Sayer 1984). While working against the materialism of critical realists, this research remains *materialist* in the sense of Elizabeth Grosz's (1993) and Karen

Barad's (1994) feminist concepts of performative materiality, a mode of thought pivoting away from and against the facile distinction between that which is socially constructed and that which lies beneath such inscription as material bodies and relations. The performative materiality of Grosz and Barad draws from a wider grouping of immanent critiques that attempt to reconcile the discursive and material realms to a singular plane of existence. Akin in many ways to Jane Bennet's (2009) "vibrant matter," Barad and Grosz focus on the performative and relational processes accounting for how things come to matter. Materiality from this perspective is always already a technological and politically laden achievement. The methodological edge of this project turns on the coupling of qualitative research, specifically ethnography using participant observation and in-depth interviews, with the genealogical and deconstructive work of tracing political ecological assemblages.

So while my fieldwork involved working and talking with people who work to protect rivers, my project begins from the notion that the very materiality of a river system is not something already "out there," so to speak. Using a feminist concept of performative materiality, I approached my fieldwork from the perspective that "seeing a river" or "reconnecting people with their rivers," as well as "getting to know your watershed" and "making people love rivers," and similar tropes used by river and watershed conservationists require attention to racial difference.

Chapter 2 works through feminist materiality and critical race theory about the body to reframe the gap between political ecology and environmental justice scholarship. It lays out the terms of a performative and political materialism that works to understand being as becoming, whereby the "intra-action" of human and nonhuman frustrates the operation of the hyphen of human-environment interactions. Moreover, drawing on McKittrick (2006), Weheliye (2014,

2005), Shabazz (2015), and Wynter (2015), this chapter works to show how the posthumanist critique of black studies can help to navigate the displacements of race characteristic of political ecological analysis. The chapter concludes with the argument that reconfiguring the problem of territory in biopolitics by attending to the performative materiality of race and environment enables research that can disclose features of the material and territorial assemblage of race-nature-state.

In chapter 3, I explain the specific archive of data collected for this research including the materials examined for a genealogy of the Altamaha and the people and initiatives I engaged through qualitative methods in the field. I conclude this essay by laying out a concept of "productive interference" between genealogy and fieldwork, building on the "diffractive" method of Harraway (1997) and Barad (2012), but also in light of Sandoval's *Methodology of the Oppressed* (2000). Chapter 3 argues that the methodological diffraction of the Altamaha through a differential method combining genealogy and fieldwork discloses the material becomings of race and the river as productive interference.

Following these chapters on theory and method, I present three empirical essays emerging from the productive interference of genealogy and fieldwork. Chapter 4 presents a genealogy of the Altamaha as a technology of governance building from colonial assemblages of power/knowledge/territory through 19th- and 20th-century enrollments of the river in economic development. These unnatural histories of the Altamaha as a fluvial technology then turn to consider contemporary assemblages of race-nature-state functioning through environmental governance. This analysis demonstrates how the apparatuses of citizen science and community-based watershed management might be understood as biopolitical formations functioning through the cultivation of watershed subjects and the materialization of neoliberal territory. This

chapter works to formulate a genealogy for understanding, and hopefully confronting, the racial assemblage of watershed subjects in hydraulic states. The division of Georgia as a place in the territory of the U.S. has been produced through a series of crucial and dynamic relationships to Altamaha River Basin. The river, in multiple ways, has been a fundamental site of the production of space and development of territory under different periods and regimes since the earliest European contact. In this sense, it is important to understand the river not simply as biophysical entity supporting a bounty of ecological relations. Instead, the river is also a technology that has played a significant role in the production of territory. This genealogy of territory identifies confluences of race and nature under previous regimes of development and regulation, to argue that contemporary forms of environmental governance and conservation are not surprisingly steeped in the performance and production of racially differentiated territories more than 300 years in the making.

Chapter 5 builds on this study of territory to further diagram assemblies of the racial state with watershed subjects by examining the performative materiality of riparian whiteness as an embodied component of the territorial assemblage enrolling watershed subjects in the hydraulics of the racial state. Empirically, it draws together qualitative methods with literary and artistic analysis of representations of the Altamaha and its riparian environments. In particular, I examine the traffic between the 18th-century travel writing of natural historian William Bartram and contemporary environmentalist nonfiction and landscape painting. Tracing the continued presence of colonial regimes of vision and calculation from Bartram's work through a growing body of contemporary literary environmentalist texts focused on the Altamaha, I bring theoretical resources from postcolonialism to bear on contemporary moments of political organizing throughout this basin to ask how the colonial present is an important component of

the political ecology of the contemporary Altamaha, from urban headwaters to its swampy bottomlands. The research suggests the need to further unearth buried colonial epistemologies (Braun 1997) in analyzing the performance of whiteness in the formation of environmentalist subjectivities and political alliances in the US South. It also suggests possibilities for enriching geographies of environmental racism by demonstrating the imbrications of contemporary regulatory mechanisms and colonial natures in the monitoring and remediation of toxic flows through highly segregated African-American suburbs of Atlanta. Building on historical geographies of social natures, this chapter demonstrates the need for decolonizing spaces and political ecologies of environmental governance—even in metropolitan Atlanta where colonial struggles might seem quite distant—if we are to understand how race and nature contour terrains of power in movements of purity and pollution through watersheds of the Altamaha basin.

Chapter 6 provides an analysis of the political materiality of environmental injustice in the upper watershed of Atlanta, Georgia's South River—a highly degraded river whose history as a crucial component of Atlanta's racialized urban metabolism runs more than a century deep. South River's flows have been deeply imbricated with flows of municipal wastewaters from the city's combined sewage and stormwater systems, and its headwaters rise from a hazardous waste site in the heart of the city, before flowing through one of the largest suburban populations of affluent African-Americans in the U.S. Despite emerging institutional recognition of the environmental injustices occasioned by the flows of toxins and human waste in South River, organizers working to diminish the disproportionate exposure of black people to environmental hazards in this watershed have rejected environmental justice frameworks in their struggle, employing instead discourses of renewal, redemption, and reconnection. In this final essay on the hydraulics of the racial state, I argue that the "politics of recognition" threaten to foreclose on the

radical potentials of environmental justice movement and that improvising against the racial state can be facilitated by an understanding of the deep histories of fluvial technology and emergent materializations of riparian whiteness.

Drawing together archival research and analysis of contemporary literary and artistic representations of the Altamaha with over four years of ethnographic research with environmental activists working on watersheds and rivers in this basin, I demonstrate how the materiality of watersheds and race are significantly bound up with one another through the production of territory. Territory under a regime of neoliberal governmentality is material, and the materiality of territory, as the materiality of race, is political and continues to bear histories of colonial displacements. While biopolitics offers a useful framework for understanding the imbrications of state, (racial) subject, and environment that materialize the territories and bodily differences of neoliberal environmentalism and governance, Foucault's concept provides little access to the political materiality of riparian environments assembled through the Altamaha's hydraulic system of connections in fluvial space. Building upon critiques of Foucault's governmentality by Braun (2000) and Elden (2007), this dissertation suggests means of bridging gaps between environmental justice research and studies of race and nature by recuperating a concern for the *qualities* of territory that are treated as givens under the rubrics of biopolitics and governmentality (Foucault 2007). Bridging this gap suggests means of confronting tendencies to displace race from the field of political ecological analysis (Heynen 2015; Kosek 2004; Baldwin 2011), but also experimental pathways for engaging the "racial state" in the study and pursuit of environmental justice (Pulido 2016; Kurtz 2009; Hollifield and Heynen 2007; Hollifield et al 2010).

CHAPTER 2: THEORY

2.1 Introduction

This chapter presents the theoretical basis for a geographic study of the confluences of race and nature in the Altamaha River Basin that employs postcolonial, feminist, and antiracist theories of bodies, matter, race, environment, territory, and politics to better understand environmental governance and injustice in the southeastern U.S. today. The theoretical framework outlined in this chapter distills a number of debates about race and environment in order to approach the conjuncture of racial violence and the nation-state that is manifested through environmental racism as more death for people of color.

Much social theory in the latter 20th century focused on the relationships between power and knowledge, how all knowledge is situated by power relations, and particularly the ways in which power is not simply something repressive, wielded by those who hold it instrumentally to consolidate it (e.g., Deleuze and Guattari 1997; Foucault 2003, 1990, 2010, 1995; Derrida 1978, 1997; Thompson 1975). Power and social relations are always also generative; they produce the conditions of possibility of knowing, and even sensing, the world around us (Foucault 1997, Barad 2003). From this vantage, the violence of Europe's imperial expansions and colonial dispossessions, for example, were always as much about regimes of knowledge, ways of knowing ourselves and the world around us, as they were ever about guns, horses, camps, and battlefields (Said 1993; Godlewska and Smith 1994; Pratt 1992). In this way, the production, movement, and application of Linnaean natural history about the Altamaha in the 18th century was not just about knowing the riparian environments sustained by the hydrologic system

(Milligan 2006). The theoretical approach in this research focuses on how knowing the Altamaha is a practice in and through which the powers that bind our social relations in structures of privilege and violence take shape and keep hold. Theoretically, I argue that the fight against racial injustice in the southeastern U.S. must include confronting and challenging the reproduction, transmission, and application of racially constituted regimes of environmental knowledge and governance. Most broadly, this dissertation works from the position that being is always becoming, and empirical observation is politically entangled with material world such that politics is ontologically prior to the materialization of entities like the Altamaha, about which we produce knowledge (Braun 2006, 2008; Bogue 2009).

An initial theoretical position is that contemporary environmental governance of surface waters and riparian environments relies upon "symptomatic silences" (Castree 2005; Althusser 1990, 2005) and "buried epistemologies" (Braun 1997, 2002) that tend to erase or elide confluences of race and nature in the Altamaha River System. The fluvial space of riparian connections known as the Altamaha is "haunted" by a series of constitutive displacements of race that shape contemporary environmental knowledge and practice (Finney 2014; Agrawal 2005). The geography of the Altamaha presented in this dissertation refers to an Altamaha that is "haunted," in this sense of Derrida's play on ontology and "hauntology," referring to moments when "the boundaries between subjects and objects are broken, when the past and sometimes the future occupy the present…..things past and long buried return to occupy the contemporary, and subjects cross the material boundaries of their former bodies" (Kosek 2006: 259). Such a concern for the ontological politics of the river system distinguishes this research from an environmental history of the Altamaha as an object whose history has been lost. To think and write the Altamaha as "haunted is also to lay to rest any hope of 'detecting the traces of [an] uninterrupted

narrative, in restoring to the surface of the text the repressed and buried reality of [a] fundamental history'…" (Spivak 1999: 208).

Along these lines, I approach the Altamaha though a "radical series of discontinuous interruptions" (Spivak 1999: 208), wherein the material presence of the river system is something always already entangled with the politics of knowledge and social relations (Deleuze and Guattari 2009; Deleuze 2012; DeLanda 2009). Section 2.2 lays out an argument for employing feminist theories of performative and political materiality in the conduct of social natures research. The theory of social natures research takes as given that knowledge about nature is always particular and situated, and knowing nature not only reflects social and economic conditions of its production, but also functions both to establish and extend power relations in society (Castree and Braun 2001). I argue that feminist theories of materiality provide useful tools for analysis of human bodies and nonhuman ones thought as *environing* them. Section 2.3 outlines the theories of race and racial difference that were used to design and conduct this research project, and posits modes for connecting the materiality of race with the political matters of environment. Building form these theoretical arguments about the materiality of race and environment, Section 2.4 identifies a gap in scholarship on race and nature between putatively allied forms of research—political ecology and environmental justice. I argue that territory is an underdeveloped component of theoretical approaches to race and nature, and Section 2.5 examines Foucault's theory of biopolitics as a potential means of bridging gaps between environmental justice and political ecology, but argues that such a merger requires scholars to theoretically confront the problem of territory.

I conclude this chapter with a provisional articulation of a theory of race-nature-state that suggests how feminist materiality making use of Deleuze and Guattari's (2009) concept of

"territorial assemblage" can be used to transform the biopolitical concepts developed by Foucault and more recently elaborated by Agamben. This transformation suggests ways for environmental justice research to follow through on suggestions to think through the racial state in studies of environmental racism (Kurtz 2009; Pulido 2015, 2016). It also suggests future directions for political ecological studies attentive to how race and environment are materialized together in territorial assemblages (Heynen 2015).

2.2 Political Materiality of Race and Environment

How do confluences of race and nature structure environmental knowledge about the Altamaha through displacements, erasures, or normalizations of social difference? How can we trace the performance of such displacements in production of environmental knowledge and practices of environmental governance? I use a theoretical framework of political materiality of race and environment to investigate the Altamaha as political matter constituted or assembled, in part, through "fatal couplings of power and difference" that sustain the exclusion of African Americans from the benefits of environmental governance, and entangle black bodies with the violence of environmental racism (Gilmore 2000). What does it mean to say that the materiality of a river system is coupled with the materiality of race?

This research draws from the theoretical developments of "social natures" scholarship that calls into question Enlightenment conceptions of a pre-given world in which "nature is assumed to be something that is unproblematically 'ready-at-hand' to human actors; while its social transformation may be seen as historical, its 'materiality' is not" (Castree and Bruan 1998, 15). Drawing from Foucault, Derrida, and Deleuze, I employ techniques and theory from social natures research to identify normalizing mechanisms operating through "concealment" and

"unconcealment" that account for how nonhuman bodies and natural environments are "rendered visible and available to forms of calculation" (Castree and Braun 1998, 19).

Geographies of social nature explicitly call for a disruption of the essentialized self-evidence of "nature," much as feminist theorists like Judith Butler (1993) and Elizabeth Grosz (1994) have called into question the material ground of the human body, understood as a site of biological sex and reproductive forces forming a surface upon which social constructions like gender and race could be inscribed. In an early survey of the field of social natures, Castree and Braun (1998) point to some of the troubles with Butler's (1993) articulation of a feminist materiality that challenged distinctions between the material facts of biology as sex from the social constructions of gender:

> As seductive as Butler's call for rearticulating the body may be, it is difficult to understand how she imagines this project proceeding. Caught between a political desire to open the body to counter-hegemonic materializations and a theoretical account that refuses to privilege a prediscursive realm (thereby figuring the materialized body as something defined only negatively through exclusion), Butler's account falters precisely at the moment of trying to imagine a site from which the body can be made to matter differently (24).

Butler's "faltering" stems from what Karen Barad (2003) identifies as the "representationalist trap," which tends to capture social constructionist arguments in a movement that abandons the material body, reducing it, as she argues Foucault (1990, 1995) has done, to a blank surface upon which discourse and history are inscribed (cf Sandoval 2000). The representationalist trap, even as Foucault (1990) and Butler (1994) work against it, tends to posit "matter as passive product of discursive practices rather than as an active agent participating in the very process of materialization" (821). For Barad (2003, 2007) and other feminist theorists of materiality (e.g., Grosz 1994, 2007), Butler's faltering stems, in part, from a supposition that one could extract the materiality of the body from its myriad relations—social, ecological, economic, cosmic—, as if

the body could ontologically exist by itself, alone and apart from myriad bordering and differentiating apparatuses that structure being as becoming.

This theoretical position about the materiality of nature compels a discussion of ontology. For Barad (2003, 2007) and Grosz (1994, 2008), the real is only ever brought forth into a status of materiality through performative couplings and differentiations. In the feminist inflected version of materialism used in this dissertation, a body only comes to matter in its capacities to affect and be affected, through relations assembling differential connections and disconnections. In this ontology, the phenomenon or event is preferred to the identity or object:

> Material-discursive practices are specific iterative enactments—agential intra-actions—through which matter is differentially engaged and articulated (in the emergence of boundaries and meanings), reconfiguring the material-discursive field of possibilities in the iterative dynamics of intra-activity that is agency. (Barad 2003: 822-823)

Rather than addressing human-environment interactions, a performative theory of materiality like suggests ways of conducting political ecology attuned to the emergence of boundaries and meanings haunting the hyphen that connects *human-environment*. This dissertation employs an ontology of political materialism that seeks to avoid such a representationalist trap by thinking through the Altamaha Basin as simultaneous entanglement of discursive and material. Such an ontological position does not mean abandoning the material world for something like pure social constructionism; to the contrary it is an attempt to take matter seriously and recognize the performative entanglements that disrupt empirical objectivism, but also stymie social constructionism.

Theoretically, this research fits into the big tent of political ecology. Political ecology counters the apolitical study of ecological problems by demonstrating the intersections of capitalist production, poverty, environmental practices, and social vulnerability Robbins (2004).

Political ecologists begin from the position that the social projects that order society are already and inextricably ecological projects (Harvey 1996). While identifying as a political ecologists, my use of feminist theories of political materiality is a departure from the dialectical work of many political ecologists.

Smith (1990) worked to demystify notions of external nature by arguing that "Material nature is produced as a unity in the labor process," and that "No part of the earth's surface, the atmosphere, the oceans, the geological substratum, or the biological superstratum are immune from transformation by capital" (79). While importantly working to displace the problematic unity of external nature, Smith's production-of-nature thesis falters similar to the faltering of Butler and Foucault. The unity of external nature is replaced with another unity, the dialectical unity of labor and capital as the fundamental crisis of modernity, such that external nature continues to hold an ontological position "where nature does survive pristine, miles below the surface of the earth, or light years beyond it … inaccessible" (81). This view suggests that external nature and humankind are native to distinct ontological domains, that is, *until* the specter of capitalism undermines this distinction.

In my reading this line of argument falters much as Butler and Foucault have been said to falter in their posthumanism. One reason is that Smith's argument "overemphasizes production at the expense of other processes which simultaneously socialize nature" (Castree 2001: 204). Braun (2008) suggests that the crucial distinction is the difference between seeing the economy as a stable, unified whole which comes into contact with a self-evidently "out-there" biophysical world and seeing economy and environment as mutually constituted *becomings*, as opposed to distinct *beings*. As Tim Mitchell (1998) argues, the economy itself as a self-evident category of analysis and knowledge production is historically developed, and too often unambiguous

invocations of global capital or the capitalist economy fail to take seriously its limit, relying upon facile "distinctions between economic and non-economic, modern and non-modern, capitalist, and non-capitalist" (99). He argues moreover "the neat categorizations with which this ambiguity is overlooked tend to reiterate the ordered discourse of capitalism itself" (98). This same issue is taken up with greater vehemence by J.K. Gibson-Graham (1996) arguing that in our common ways of talking about capitalism as critical geographers, the capitalist economy is:

> constituted as large, powerful, persistent, active, expansive, progressive, dynamic, transformative; embracing, penetrating, disciplining, colonizing, constraining; systemic, self-reproducing, rational, lawful, self-rectifying; organized and organizing, centered and centering; originating, creative, protean; victorious and ascendant' self-identical, self-expressive, full, definite, real, positive, and capable of conferring identity and meaning. (4)

In light of these concerns, I follow Braun's (2000) recommendation that "it is perhaps more useful to explode 'production' into multiple, heterogeneous practices" rather than binding them up into a "singular and unified field of social logic" (14).

In *Justice, Nature and the Geography of Difference* (1996), Harvey writes "Defining a proper ground for a socialist approach to environmental-ecological politics has proven a peculiarly difficult problem" (193). Harvey's ontology limns a complex world of processes, flows, and indeterminacies because "permanences, power structures, and rigidities of discourse are irrelevant or weak in relation to the fluid processes that constitute them" (82). bringing him "in close proximity to the non-essentialist ontologies of … Deleuze, Serres, Latour, and others" (Braun 2006a: 196). Despite this proximity, however, Harvey's processes, much like Smith's disavowal of external nature tend to drift back toward the "iron laws" of accumulation "with contingencies," to reclaim the explanatory powers of the labor process (2006a: 199). The theoretical position taken here is that such slippage are native to the dialectical approach to

ontology (DeLanda 2009), which requires a supplementary (n+1) dimension for analysis, from which one may order the unity of social production (Braun 2006a).

Feminist theories of bodies and materiality complicate the environment, suggesting nondialectical ways of thinking through how the hyphen of human-environment can be used to designate the role of environmental power/knowledge in assembling the materialities of race articulated in human bodies. I argue that nature-society research is best conducted with such a radically open concept of *bodies* that does not assume or attempt to ascertain their essences, but rather traces their emergence as capacities and couplings in what Slocum and Saldanha (2014) term "global assemblages constituted *through* bodily difference" (7). Such a performative ontology of political materiality rejects a "depth hermeneutic" for which the real is constantly obscured by the imprecision of representation or revealed by the unveiling of ideology. In this framework, "epistemology and ontology cannot be held distinct, since we know the world through specific, embodied, practices; in turn, these practices encounter neither a passive nor undifferentiated world" (Braun 2008: 671). Drawing upon Deleuze and Guattari (2009), I follow scholars who employ concepts of body and affect wherein "knowledge is in part an outcome of the capacities of bodies to produce affects, and to be affected" and, importantly, the "capacities of bodies to be affected and to affect other bodies—human and non-human alike—are not given in advance" but are capacities that must be learned or technologically achieved (Braun 2008: 671-672). Feminist materiality, as opposed to critical realism (Sayer 1984), recalcitrant natures (Bakker 2010b), or actor-network theory (Hollifield 2009), provides a means of engaging the material presence of environmental bodies in touch with how race, nature, and power function together and through one another in the "enfleshment" of racialized human bodies (Moore et al 2003; Weheliye 2014). Political materiality helps to conceive race embodied by people and

marked by the "slow violence" of environmental injustices (Nixon 2011), but also to empirically ground analysis of how the racialization of nonhuman bodies performs in the constitution of environments.

Similar to my theoretical position on the political materiality of nature and environment, I employ a materialist theory of race, despite the many risks this position entails (Saldanaha 2006, 2007; Wehliye 2014; Slocum 2011). Arun Saldanha (2007) has argued that feminist attempts to "affirm the differential materiality of bodies" (9) can provide more traction than social construction in the "battle against white supremacy" (10), particularly because "humanity is itself defined in white terms" (7). Theoretically, building from feminist theories of materiality by Barad (1994) and Grosz (1994), I draw also from Saldanha (2007), who argues that race is best understood and politically mobilized as ontologically existing materialized reality, not simply material consequences of social constructions, and that "race emerges corporeally, machinically, and ecologically" as material reality through converging and diverging formations and capacities operating between bodies (204).

The racial homogeneity of U.S. environmentalism has been examined in many studies of whiteness, recreation, and environmentalism (Gibson-Wood and Wakefield 2013; Finney 2004; Baldwin, Cameron, and Kobayashi 2011). Why is civic engagement in environmental issues and governance in the U.S. and Canada "such a white thing" (Razack 2011: 264)? Stemming from 19th-century obsessions with racial purity, whiteness has been described as a "specter of environmentalism's past that is hardly acknowledged yet never entirely absent" (Kosek 2006: 145). Geographers have examined "the environmental movement in North America…as predominantly white and middle class in terms of both its membership and issues of concern" (Gibson-Wood and Wakefield 2013: 644).

Perhaps most relevant of these to this project is Carolyn Finney's (2014) analysis of how African Americans have been excluded from participation in environmental affairs through historic and discursive displacements that bar people of color from inclusion and script the environment through tropes that disavow black relationships with the environment. Like Finney's project, this research addresses mechanisms accounting for the underrepresentation of black people in environmentalism. Where Finney addresses this problem broadly across a range of sites and regions, my project focuses on the Altamaha Basin as the scale of analysis. Like Finney (2014), my project is concerned with intervening in the pronounced and peculiar tenacity of racial exclusions from environmental "sectors" as African Americans have become more "integrated" and "visible" in other sectors of U.S. civic life (xiii). My fieldwork was designed to query the unspoken whiteness of the human in so-called human-environment interactions, and my analysis seeks to trouble the ways whiteness is a formation that includes a normalized way of knowing the environment, one that reproduces differential access to "natural" or "green" spaces for people of color just as it functions to deny equal access to the benefits of environmental governance (Finney 2014).

However, such studies of whiteness and barriers to nonwhite participation in environmental affairs do not require more than a social constructionist or white privilege theory of race (Gibson-Wood and Wakefield 2013; Finney 2004; Baldwin, Cameron, and Kobayashi 2011). Departing from the social constructionist foundations of research on whiteness in U.S. environmentalism, I draw theoretically from recent developments in black geographies that push at racial categorizations and the ontological framing of race by arguing that blackness and whiteness exceed the sociological and juridical precincts of privilege and discrimination (Moten 2007; Weheliye 2005, 2014; Shabazz 2015; McKittrick 2005). Whiteness, certainly cannot refer

to a genetic, biological, ethnic, or even phenotypical set of qualities or identities (Kobayashi and Peake 2000; Slocum and Saldanha 2013). Whiteness-as-privilege is not sufficient to analyze the performance of racial difference as structured, rhythmic violence (Pulido 2016; McKittrick 2005). Indeed, according to scholars in feminist, black, and indigenous studies, the sociological positions known as blackness, whiteness, indigeneity, and mestiza, for examples, are not identities to be held so much as essentializations and erasures (Anzaldua 2007; Sandoval 2000). With this theoretical basis, this dissertation examines entanglements of nature and racial identity in the U.S., borne of the passage from Enlightenment through the conduct of Linnaean natural history on colonial frontiers (Stoler 1995), and resounded through innumerable transatlantic crossings (Weheliye 2014). I argue that such theoretical complication of race as more-than-social-construction is necessary to understand the tendency to capture and contain radical trajectories of political movement for environmental justice (Pulido 2016; Kurtz 2009).

This section has argued how feminist theories of political matter (Jane Bennet 2009; Braun, Whatmore, and Stenger 2010; Barad 2007) suggest new ways to conceptualize the imbricated materialities of race and environment. Thinking race and political materiality together suggests theoretical possibilities for understanding the role political ecologies play in materializing race and difference in broader social relations. Beyond an analysis of how racial dynamics have structured the whiteness of U.S. environmentalism and the implementation of environmental policy, such a framework situates this research project to contribute to an understanding of how contemporary innovations in environmental governance of rivers and riparian environments function to re-frame, and even re-ontologize, racial systems of difference and discrimination assembled in neoliberal territory (Saldanaha 2006; Slocum 2011). In the next

section, I position this argument theoretically in the context of other geographical studies of water.

2.3 Diagramming Hydrosocial Machinics

The relationships between water and society are an important focus of nature-society research in geography (e.g., Linton 2010; Budds and Saltanha 2013; Gandy 2002; Robertson 2008; Bakker 2003; Mukerji 2009; Bernhardt et al 2007; Carroll 2012). Political conflicts over water resources are common across the globe (Gandy 2014; Bakker 2010a), and many studies of water politics work within an international paradigm to show "how different modes of power and various types of water intersect through development discourses and interventions to reconfigure hydrosocial arrangements" (Budds and Saltanha 2013: 278). My research on confluences of race and nature in the Altamaha River Basin builds on such geographical studies of hydrosocial arrangements with a focus on the cultivation of such arrangements in the assembling of territory within a single nation-state (Carroll 2012; Ranganathan 2014; Swyndouw 1999, 2004).

Much critical geographic work on water has been conducted within a political ecology framework (Lave et al 2010; Lave 2012; Bakker 2005, 2010; Budds 2004, 2009). Such topics as the global urban water crisis (Bakker 2010a), the commodification or privatization of water resources (Swyngedouw 2005), the recalcitrance of water as a resource or commodity (Bakker 2005), and urban metabolism (Swyngedouw 2004; Kaika 2005) are well developed in this research. While I build on the theoretical insights of the wealth of political ecological research on water, there are some important distinctions between my approach to the hydrosocial and that of important political ecologies of water (Gandy 2002; Swyngedouw 1994, 1999, 2005; Kaika 2005; Robertson 2004; Bakker 2005, 2010, 2012). The most consistent trend is work that focuses on the urbanization of water as a way of bringing nature back into the city that has been

ideologically rendered in opposition to nature or a space of nature's absence, while other scholars have focused on the manner in which "urban nature is … visceral, embodied, and woven through the fabric of the city" (Bakker 2010: 7). These studies of water's urbanization trace the commodification of urban natures as a component of capitalism's production of space through the laboring of nature's metabolization. The dialectical back and forth between biological, technological, and social processes allow for vibrant portraits of the densities and velocities of urban processes that confound nature-culture dualisms.

Kaika's (2005) analysis of technological networks in urbanization and commodification of water, for example, demonstrates the role that disavowing nature plays in the spatial formation of urban ecologies in modernity. Using "water as the vehicle" to draw the analysis in through the pipes to domestic spaces of representation and production, Kaika (2005) shows the "visual exclusion of production networks" enables the "ideological exclusion of social processes" to parallel the "ideological exclusion of nature" in a reading of the contemporary Greek home. This dialectical reading of water's urbanization brings "individualization, fragmentation and disconnectedness" into tension with the expectations and social constructions associated with "domestic bliss" (75). Kaika's (2005) argues:

> Unfolding the constant material flows of commodified nature, labor power, technology, capital investment, and social relations—all of which had been discursively compartmentalized into distinct spaces in the modern era—opens up the possibility of conceiving nature and the city not as separate entities, but as dialectically related to each other, as the outcome of a unified process—the production of space. (9-10)

In this passage, a dialectical analysis of "constant material flows" discloses the mutuality of nature and the city, but as Castree (2002) suggests, this sort of implementation of dialectics with internal relations often depends upon capitalism to disrupt distinct domains of nature and culture. You can see this in the following passage:

> Water supply netwoks, for example, are the means of transforming H2O (a natural element) into potable, clean, translucent water (a socially produced commodity embodying powerful cultural and social meanings). Water enters one end of the network as H2O and subsequently undergoes a chemical and social transformation to end up at the other end (the tap) as potable water, as a commodity properly priced and treated. (Kaika 2005: 29)

In this passage, water as "a natural element" is subsequently transformed by water supply networks before attaining "powerful cultural and social meanings."

In short, urban political ecologies of water often depend upon the crises and fixes of capitalism to thwart a fundamental nature-culture dualism, which otherwise might hold as a duality. Braun (2005) reflects upon what this means for UPE approaches to hydrosocial relations in terms of their openness to incorporate cyborgs and hybridity. Addressing Swyngedouw's (2004) study of *Social Power and the Urbanization of Water* in Guayaquil, Ecuador, in which relational ontologies and ANT plays a prominent role in the analysis, Bruan (2005) finds that Swyngedouw "presents urbanization as merely 'a particular socio-spatial process of metabolizing nature.' Yet, at other points he writes as if cities were *the* site of 'cyborg' natures, giving the reader the sense that it is *urbanization itself* that confounds the nature-society dualism" (641). Braun's (2005) concern is to reject the idea of urbanization as a "historical break" that is responsible for a world that is now ontologically different.

Water is a particularly inviting natural element for thinking through the entanglements of the human and nonhuman. Citing Harvey's (1996) intervention on the naturalness of New York City, Kaika (2005) begins her monograph that traces the development of modernity via the urbanization of water with a catalogue of nature-culture hybrids, "myriad of transformations and metabolisms that support and maintain urban life": "water, food, computers, or movies … smells, tastes, and bodies from all nooks and crannies … people, spices, clothes, food-stuffs (22).

Kaika presents a dizzying hubbub of human-environment entanglements, "the manufactured landscaped gardens of gated communities and high-technology campuses to the ecological war-zones of depressed neighborhoods with lead-painted walls and asbestos covered ceilings, waste dumps, and pollutant-infested areas…chemical, physical, social, economic, political, and cultural processes" (22). Finally, though, the catalogue terminates with the dialectical process that animates them all—"capitalist urbanization"—welding together this nature-culture menagerie in "an often disturbing whole" (22). I use a nondialectical ontology of being that conceives bodies—human and nonhuman—as entangled, mutually constituted becomings, whether or not capitalist urbanization entangles the human and nonhuman.

Theoretically, this project also builds on political ecology research that has become more attentive to racial difference (Heynen 2015), including not only racial inequities that attend environmental issues across the globe, but also racialized understandings that underlie the knowledge and practices of environmental governance and socio-ecological struggles. Race happens at the most intimate localities of the body and through the most global of projects—colonialism and capitalism, the Anthropocene. While political ecology is highly adept at tracing the uneven outcomes of the social production of nature, scholars using the metabolic model of human-environment relations have often deferred explicit concerns about racial identity and difference in environmental struggles. In the colonial present of neoliberal capitalism, this research project is based on the argument that race is a constitutive presence at every space and scale of political ecological inquiry. As Slocum and Saldnaha argue (2014), "Racialization happens even on the most abstract level of capital itself" (15). There is no capitalism without racism, and yet, often and especially in broad overviews of the field race is relegated to a secondary position in political ecological analysis (Robbins 2004; Heynen et al 2007).

As Kobayashi and Peake (2000) have argued, racial violence draws from the capacity to normalize whiteness, such that both colorblindness and the fantasies of racially unmarked bodies are essential to racial structures distributing more death for some and less for others. The theoretical framework of this dissertation is meant to come to terms with the displacements of race common to political ecologies, responding to an urgency exemplified in Slocum and Saldnaha (2014), who write "What is needed now is a political ecology attuned to the ways environmental injustice is globally constituted through bodily differences." (7) As I argued in the previous section, it is not possible to conceptualize a human body without race; the imagined universals of humanism are deeply problematized by racial difference. But this should also be true of nonhuman bodies. The environmental bodies of political ecological research are racially constituted as well; the legibility of pollution, toxins, and degradation, concepts like biodiversity through which we imagine and conduct environmental governance and conservation, the global distributions of molecules and vulnerability populating the Anthropocene—each of these entities are in fact racially constituted even if their articulations and materializations are achieved through displacements of racial difference. In short, though racial difference is central to any site of political ecology, the discipline has matured, in part, through a frequent deferment of attention to race. One theoretical aim of this research on confluences of race and nature in the Altamaha is to query the place of race in political ecology.

"Placing" race in political ecology cannot mean simply adding race as another variable to attend to when pursuing political ecological research, because, I would argue, political ecology itself is a framework that has emerged through a constitutive set of displacements, of which race is crucially significant. This problem is not unique to political ecology, of course, and similar critiques have been levied more broadly across geography. McKittrick's *Demonic Grounds* and

Gilmore's (2000) "Fatal Couplings of Power and Difference" challenge the "placing" of the "world within an ideological order," unevenly, such that the analytical field is achieved only through the displacement of difference. "This naturalization of 'difference' is, in part, bolstered by the ideological weight of transparent space, the idea that space "just is," and the illusion that the external world is readily knowable", even when specifics of racial and sexual difference are subsumed or elided (xv).

Feminist political ecologists, have worked to emphasize the intersection of multiple identities and sets of power relations. Diane Rocheleau, et al (1996), for instance, argue "feminist political ecology treats gender as a critical variable in shaping resource access and control, interacting with class, caste, race, culture, and ethnicity to shape processes of ecological change..." (4, emphasis added). Drawing from philosophers of science such as Sandra Harding (1986) and Donna Haraway (1988), early work in feminist political ecology approached the question of expert knowledge with more attention to its situated character. As Mollett and Faria (2013) have recently argued, however, there remains in feminist political ecology a "prevailing ambivalence" towards forms of difference other than gender, and a general "paucity of racial inquiry" (119-120). Though political ecologists have perhaps been slow in taking up the topic of race, there is now widespread recognition that thinking through questions of race and the environment must not be left to scholars of cultural politics and environmental justice. The politics of nature are inseparable from the politics of race. Moreover, political ecologies of race may contribute to broader scholarship on race.

There are important intersections and tensions between political ecology and environmental justice studies, particularly those attentive to environmental racism. While these fields inform one another, certainly a more sustained dialogue on their conjunctions and

differences would benefit our understandings of environmental conflicts and problems. Di Chiro (2003) has called for a "political ecology rooted in environmental justice" capable of posing "the question of how geographies are encoded with or stripped of racial and sexual markers and, furthermore, asks what would be the social meanings and political consequences of this process" (214). Brokering a merger between political ecology and environmental justice, however, necessitates more sustained research on theoretical relationships and empirical connections between race, nature, and the state. Building on scholarship that demonstrates how discourses of race and nature play key roles in constituting the nation, the theoretical framework employed in this research is intended to work at the intersections and tensions between environmental justice studies and political ecology.

Some political ecology has begun a similar effort through analyses of the biopolitics of environmental governance, resource management, and conservation, attending to the mutually constituted materialities of race and environment. For example, Guthman's (2012) work on food, disease, and genetics, as well as Bierman and Mansfield's (2014) work on biopolitics of resource management and conservation. These political ecologies of race provide valuable insights into how research on environmental injustice can engage concepts such as the racial state and biopolitics more effectively. Brokering such a merger between the insights of environmental justice scholarship and political ecology can help to elucidate the ways that environmental governance is always already a racial formation, whether or not an intervention is focused explicitly on particular outcomes of environmental racism.

This section has outlined the correspondences with and departures from political ecologies of water of this research project. I build upon political ecologies of water by employing a feminist theory of political matter. Such a variation on the political ecology of water promises

a means of engaging the racial state through political ecology could benefit scholars building on efforts to develop an environmental justice attentive to white supremacy and state racism (Kurtz 2009; Pulido 2015, 2016). A wealth of recent literature on the margins of political ecology, has made the case that race and nature are powerfully, even ontologically, linked. Kosek's (2006) *Understories* and Baldwin, Cameron, and Kobayashi's (2011) *Rethinking the Great White North: Race Nature and the Historical Geographies of Whiteness in Canada* make important connections between colonialism, race, and environment as well as the roles of whiteness, white supremacy, and other forms of racial power in the performance of environmental governance, activism, and scholarship. While much work has been done to unwind the knots of wilderness and other ecological imaginaries bound up with colonialism, race, and environment, such concerns have remained marginal in much work on political ecology. Similarly, research into whiteness in environmental governance, activism, and scholarship has remained somewhat tangential to mainstream political ecological research trajectories. While research on race and nature makes the important case that environmental politics are always importantly enlivened by racial politics, few of these studies delve very deeply into the theoretical debates about governance, sovereignty, and the state. Thinking through the political materiality of race with political ecology could be a very useful means of productively building further bridges between political ecology and environmental justice research. The next section explores how the ontology of political matter connects with environmental justice theory that I have used to develop this project.

2.4 Specters of Justice

The South River and its most toxic tributary, Intrenchment Creek, flow through primarily African-American neighborhoods in southern Dekalb County. The Georgia EPD (2012) lists

these streams among the state's most "impaired"—unsafe for human contact, including swimming, paddling, and fishing because of high levels of PCBs and fecal coliform (Echols 2015). For decades, the wastewater management systems of Atlanta and DeKalb County have released millions of gallons of untreated sewage into streams flowing through these racially segregated communities, more than 80% African-American (NFWF 2014; GCA 2010; Hunter 2010; EPA 1998a, 1998b, 2010). In summer of 2010, local residents began swimming in the South River at Panola Shoals because the opening of a multi-use trail along the river made it accessible, at least until a local newspaper published these photos, prompting the city to restrict access. Community concern stemming from this event inspired organizers with the South River Watershed Alliance to action. Since 2011, the organization has been working with the EPA, Georgia's EPD and Dekalb County in implementing a Judicial Consent Decree to eliminate sanitary sewage overflows 2020 (USDC 2011). The organization's website celebrates this position because it gives "citizens a seat at the table," but this seat at the table does not address why these black children were more likely to be exposed to toxins and pathogens than they would have been if they lived in a primarily white suburb of Atlanta. Laura Pulido (2000) argues that such sites of uneven exposure to environmental hazards are not simply locations where environmental racism *happens*, but that environmental justice research "allows us to see how environmental racism has been produced—not only by consciously targeting people of color—but by the larger processes of urban development, including white flight" (564).

Environmental justice research offers various means of understanding how and why some people face more exposure and risk to environmental hazards (Sze and London 2008; Taylor 1993). In recent decades, the environmental justice movement has disrupted "the white, middle-class nature of some environmentalisms and the marginalization of issues of concern to people of

colour by both government and environmental organizations" (Gibson-Wood and Wakefield 2013: 642-643). As in Pulido's (2000) analysis of patterns of environmental racism and urban development in Los Angeles, Atlanta's landscapes of environmental racism are intricately coupled with historic processes and contemporary drivers of segregation. The environmental racism in the South River watershed is not best understood as intentional acts of discrimination, but rather as present-day manifestations of a deep history of slow and systemic violence. This section outlines theoretical debates around thinking environmental injustice in terms of the racial state (Kurtz 2009; Pulido 2014, 2015, 2016).

Environmental injustice in the form of uneven racial distribution of exposure to environmental risk is a persistent and prevalent problem across the U.S. Building from the civil rights movement (Bullard 1993), environmental justice activism has grown significantly in recent decades gaining recognition at the national level (Sasser 2014. However, state recognition of environmental injustice does not necessarily lead to the rectification of environmental injustice (Pulido 2016). An awareness of such a foreclosure wherein state recognition of environmental justice does not amount to a better situation is at the heart of organizers approach to addressing environmental racism on South River. Much geographical research indicates that the preponderance of environmental injustice across the U.S. has less to do with intentional racism, such as the purposeful siting of hazardous facilities in minority communities, but much more to do with the economic production and distribution of racialized space and the implication of the state in racial formations (Holifield 2007; Fredrickson 2013; Pulido 2015, 2016; Kurtz 2009).

In 1996, "environmental racism" was a relatively new focus of geographical research, and Pulido (1996) issued and important critique of research focusing on the relationship between

marginalized groups and environmental issues, including the elitism of mainstream environmentalism, limited participation of nonwhites, and the biased nature of environmental policy. Each of these forms of environmental racism pertains in Atlanta's South River and perhaps even more trenchantly in the rest of the Altamaha basin. Pulido's primary focus in this groundbreaking article was to critique explanations of the uneven distribution of exposure to pollution using an understanding of race as an autonomous, epiphenomenal social category (Pulido 1996). Drawing heavily from Omi and Winnant's (1994) definition of racial projects—"A racial project is simultaneously an interpretation, representation, or explanation of racial dynamics and an effort to organize and distribute resources along particular racial lines"—Pulido presented two important points that are, today, critical mainstays of environmental justice research (1996: 143). First, following Stuart Hall (1980), we must recognize that racism is not extricable from broader social and economic milieus for two central reasons: 1) it is necessary to refute researchers working from a positivist framework who attempt to "catch racism in the act" before attributing racial correlations to racial formations; and 2) insisting on the inextricable imbrication of race in socioeconomic milieus is necessary to stymie scholars who would explain racial inequalities as epiphenomenal to more strongly determining formations such as class or other social forces or structures. The second important point is that, beyond the fact that race cannot be essentialized biologically or otherwise, racism, too, is not some monolithic form, but instead functions through a range of varying racial projects, themselves rife with competition and contradiction. The systemic nature of these projects and, more importantly, their permeation into all aspects of social life, is elided when one attempts to use a concept of racism as a label: this discriminatory act is racist, that act is not. In order to avoid the reduction of "inherently complex and contradictory ideology and … practices (racism) into an either/or situation," researchers,

according to Pulido (1996) need to avoid three methodological tendencies in accounting for the uneven distribution of exposure to environmental hazards: reducing racism to overt actions, denying racism as ideology, and insisting on a "fixed, unitary racism" (144).

Building upon her (1996) challenge to uncritical assumptions about race in approaches to environmental racism research, Pulido (2000) developed the conception of white privilege as a framework for understanding racism in the urban spaces of Los Angeles where there exists a high correlation between non-whiteness and exposure to environmental hazards, most pronounced among Latinos. This analysis demonstrates that when "racism is understood as a discrete act that may be spatially expressed, it is not seen as a sociospatial relation both constitutive of the city and produced by it" (13). Resituating the question of racism this way pushes EJ research to recognize that the sites of uneven exposure to environmental hazards are not simply locations where environmental racism happens: "focusing exclusively on discriminatory acts ignores the fact that all places are racialized, and that race informs all places" (13). Pulido (2000) concludes that the frame work of white privilege "allows us to see how environmental racism has been produced—not only by consciously targeting people of color (as in the incinerator cases)—but by the larger processes of urban development, including white flight, in which whites have sought to fully exploit the benefits of their whiteness" (33).

But does Pulido's (2000) framework of urbanization and white privilege offer a coherent means of thinking of the state and race in their co-constitution and mutual imbrication? White privileges certainly exist, but in shifting environmental racism research to a white privilege frame we largely transfer the problematic "intentionality" of thinking racism as deliberate acts of discrimination to thinking racism as deliberate acts of exploiting privilege. Analyzing the state and race as given and ontologically distinct categories is not enough. We cannot leave analysis of

race and the state to a simplistic discussion of the intentions of the state and its effects on racialized populations. These categories and practices emerge together in co-constitutive processes. In attributing the spatial productions of race materialized from white flight to the deliberate pursuit of "full" privilege by white homeowners, it is difficult to understand the way the production of homogenous white spaces can be part of the state production, management, and organization of race. Such concern has prompted Pulido more recently to consider the limitations of white privilege as a framework for understanding and confronting environmental racism. Kurtz (2009) has argued that greater "attention to the interplay between the racial state and the EJ movement as a racial social movement will yield important insights into the conditions, processes, institutions and state apparatuses that foster environmental injustice and that delimit the possibilities for achieving EJ in some form or another" (685). Kurtz (2009) follows Pulido's (2000) historical meanders "re-entangling" race and capitalism in the sociospatial production of Los Angeles and its sites of environmental racism, but ultimately these arguments diverge at a critical juncture. Kurtz (2009) demonstrates that even Pulido's focus on particular Federal housing policies and discriminatory practices such as red-lining fail to reveal the extent to which the "liberal state takes as central to its purpose the task of managing racial categories in pursuit of social homogeneity, but does so through a legal apparatus which seeks to deflect attention from its work" (249).

Drawing primarily upon Goldberg's Racial State (2002) and to a lesser extent upon Scott's *Seeing Like a State* (1998), Kurtz (2009) demonstrates the deeply involved and committed organization and structuring of race at work in strategies for rationalizing and standardizing difference in the production of homogeneity in social bodies and social spaces. The modern liberal state's compulsion to produce homogeneities not only make them more easily

governable, but also helps the state to deflect criticism and resistance (Kurtz 2009: 697; Goldberg 2002: 141). While the Racial State helps to open EJ research and activism to the realization of the limitless depth and breadth of the modern liberal state's commitment to racial projects, Goldberg's (2002) analysis typically maintains rather breathless heights in relation to the environmental knowledges and conditions that compose the state's territories. Kurtz (2009) explains how Goldberg's analysis helps to unravel the problematic of distinctions between popular and expert knowledge in terms of the production of racial categories and regimes of calculation addressed to the populations. However, as in Foucault's abandonment of the qualities of territory to the banality of ahistorical a priori, Goldberg's Racial State (2002) offers little in the way of suggestion as to how social natures are crucial hydraulic forces in the confluences of race and state.

Omi and Winant (1994) prelude their elaboration of a theory of *racial formation* as a conceptual means to account for race in the U.S. with a stringent critique of class- and ethnicity-based approaches to race that reduce it to an epiphenomenon. They also argue that nation-based paradigms give inadequate accounts of "what exactly is 'national' about racial oppression in the U.S." (1994: 47). What the nation-based paradigm leaves intact, however, is the primacy and "centrality of race in shaping American politics and culture" (1994: 5). Though Omi and Winant commend the nation-based paradigm for tenaciously holding on to race as a fundamental category for understanding social relations, they argue that the connections between U.S. society and global colonialism, while useful, are tenuous. In order to grasp the complexities of race's centrality in the U.S. social organization and politics, they develop the concepts of *racial formation* and *racial projects* to account for the relationships between "social structure and cultural representation" in the production and evolution of hegemonic rule (1994: 56). Though

they present a useful framework, most of Omi and Winant's argument hinges on explicit discussions of race in political and public discourse. The definition of racial formation suggests that a broad range of social processes are called into play in making race work as power: "*the sociohistorical process by which racial categories are created, inhabited, transformed, and destroyed*" (1994: 55). However, they define racial projects as "simultaneously *an interpretation, representation, or explanation of racial dynamics, and an effort to reorganize and redistribute resources along particular racial lines*" (56). And racial formation is the synthesis of widely disparate racial projects interacting across scales and throughout society (60). On the one hand, this schema allows Omi and Winant to point to the fact that U.S. society is thoroughly suffused by racial ideology, that "the state itself is racially structured," and that "every state *institution* is a racial institution" (1994: 82-83). On the other hand, a less constrained and less instrumental conception of racial projects is, I argue, necessary to fully appreciate the constitutive dimensions of race in U.S. society.

Where epiphenomenal approaches squelch this centrality of race, racial formation and racial projects help to make assemblages of race and state more plain. While Omi and Winant (1994) draw on explicit treatments of race with examples from political figures and political debates, as if race and the state are coupled only through explicit recognitions of racial differences and racial projects. Their brief histories of the "evolution of modern racial awareness" and the "historical development of the racial state" are too tidy (61-69, 81-82). What falls out from the methodological tendency to only examine racial formation and projects via salient instances where race is named, rendered, or performed explicitly constitutes a foreclosure on the more silent or silenced aspects of the primacy of race. For example, their treatment of Linnaeus' Systema Naturae (1735) in their narrative of the evolution of racial awareness, they do

so merely to suggest its foundational role in laying the groundwork for scientific classification of races, and the Darwinian, Lamarckian, and eugenicist movements to justify the racist imperialism that followed. Michel Foucault (2002), Edward Said (1993), and Mary Louise Pratt (1993) have each demonstrated the strongly imperial character of the Linnaean project even before it became the basis for scientific conceptions of race. And the role of this cataloguing structure was not simply instrumental to the making legible of colonially appropriated territory, but it also worked to structure subjectivities. The knowing subject of the colonial, naturalist travel writer performed important ideological function in the production of both conceivably manageable space but also the colonial, to-be-colonized *Other*. Omi and Winant's elaboration of racial projects tends to overlook these more deeply buried forms in the genealogy of racial awareness.

Another shortfall of this approach is the fact that Omi and Winant lament the "absence of a clear 'common sense' understanding of what racism means" (1994: 70). They use racial formation to "reformulate the concept of racism" and to "differentiate between race and racism", such that a given racial project is "*racist* if and only if it *creates or reproduces structures of domination based on essentialist categories of race*" (1994: 71). Goldberg's (2002) treatment of the racial state places the role of whiteness in a much more central position conceptually:

> Racial states, then, are states that historically become engaged in the constitution, maintenance, and management of whiteness, whether in the form of European domination, colonialism, segregation, white supremacy, herrenvoldk democracy, Aryanism, or ultimately colorblind or racelessness. These are all states of white rule, where white governance and norms of white being and being white historically prevail. They are states, that is, where whiteness increasingly becomes the norm. Racial states, in short, are states ultimately where whiteness rules. (2002: 195)

While Goldberg acknowledges the significance of Omi and Winant's theoretical schema, he goes beyond what he calls their "conceptual discreteness" by granting more significance to discourse

and bringing Stuart Hall's concept of "articulation" and Gramscian of hegemony to the analysis (2002: 4). Examining the "constitution, maintenance, and management of whiteness" at the core of racial states, Goldberg develops several points about the "historical co-definition of race and the state in their modern manifestations" (Kurtz 2009). Goldberg's point in arguing that "race is integral to the emergence, development, and transformations (conceptually, philosophically, materially) of the modern nation-state" hinges upon the concept of exclusion (2002: 4; cf Agamben 1998, 2005; Esposito 2008). Goldberg's argument maintains a nuanced delineation between the racial state and racist states, raising the question as to "whether the racial state is necessarily representative of the interests of the ruling class" (112). The crux here is that the historicist progressivism of the enlightened liberal tradition is built into a recursively self-reproducing system in which "while racist states may seem exceptional, their very possibility is underpinned by the normalcy of the racial state" (114). One implication is that the racial state might be temporarily harnessed to achieve anti-racist goals (i.e. rights-based protections for minority groups), but, ultimately, such strategic politics will be closed in upon by the very openings provided by the racial state. Here Goldberg's sense that the states of exception from the liberal norm should be read as the exposure of the rule, not violation of the rule (cf Agamben 1998, 2005). Further, Chela Sandoval's differential politics echoes this ephemeral status of pragmatic and necessary engagement with the state for political mobilization in her methodology of the oppressed (2000). In these analyses, the power of the law, the state, and race cannot be adequately understood in instrumentalist terms that leave intact a humanist subject who consciously deploys discursive, ideological, and material tactics to consolidate hegemonic rule. The power constitutive of racial rule is more diffuse and more capillaried than such a conception allows.

This section has described the problem of thinking through environmental injustice as bound up with the racial state. In the following section, I propose a revision of Foucault's biopolitics (2003, 2007) that promises to facilitate connections between political ecology, environmental justice, and the racial state by attending to the problem of territory (Elden 2007).

2.5 Biopolitical Territory

While the concept of biopolitics developed by Foucault provides some insight into this political confrontation, I argue that biopolitics also has a number of drawbacks for understanding the assemblage of race, nature, and the state situating restoration efforts along South River. However, research drawing upon both of these frameworks would further need to employ a biopolitical concept of state racism to interrogate the manner in which racial subjectivities are themselves constituted with practices of governmentality that draw SRWA organizing for environmental justice into the fold of a watershed movement that cultivates white subjectivities and produces legibilities of landscape that are exclusionary.

One of the problems with trying to write about the state is the point of departure for an essay in which Bourdieu (1999) calls upon social scientists to employ "radical doubt" as a tonic against the state's capacity to seduce them into a facile relationship with the "social problems" produced by its bureaucracies. He writes,

> To endeavor to think the state is to take the risk of taking over (or being taken over by) a thought of the state, that is, of applying to the state categories of thought produced and guaranteed by the state and hence to misrecognize its most profound truth…one of the major powers of the state is to produce and impose (especially through the school system) categories of thought that we spontaneously apply to all things of the social world—including the state itself" (53-55).

Similarly, the trouble with thinking about territory is that we are encouraged to think of territory as materially given and politically uncontested. To think about territory within the domain of the

state encourages us to apply the state's categories to all those things that make up the territory. Bound up by the state as we may be, we must nevertheless endeavor what Spivak (1999) might characterize as a disavowal of a state-centered conception of territory with no hope of disaffiliation from the spatial technologies assembled with the state. Building on a conception of political and performative materiality, spatial and environmental technologies of geopolitical territory play crucial roles in achieving the material presence of entities of state territory governed today as environments. While this dissertation works with theories of the state that echo Bourdieu's concern to avoid reification of the state as distinct from other social patternings of human life—"the state is an X (to be determined) which successfully claims the monopoly of the legitimate use of physical and *symbolic* violence over a definite territory and over the totality of the corresponding population" (56)—I am also keen to suggest that "definite territory" should be replaced with a much more indefinite X to be determined, or at least diagrammed through geographical analysis. This section begins to unpack the freighted complexities of such a definition by worrying over the naturalness of the terms "definite territory" and its corresponding population as totality. The mode of argument not only questions the clarity of boundaries between individual, society, and state but also to challenge the ontological distinctions frequently deployed in social explanation between state and economy as well as nature and society (Mitchell 1999).

Foucault's governmentality offers a means of bridging between scholarship on environmental justice, political ecology, and the cultural politics of race and nature, but this bridge is barred by Foucault's inadequate treatment of the problem with territory (Elden 2007; Braun 2000) and the Eurocentrism of Foucault's analysis that figures race only in conceptual terms (Stoler 1995), deaf to the embodied realities of racism and colonialism (Weheliye 2014).

There are two major problems with Foucault's treatments of race in the lectures on biopolitics and governmentality. First, his genealogy of the state proceeds with virtually no concern for the role of colonialism in forging modernity's bonds between race, sexuality, and the nation-state (Stoler 1995). Second, though his genealogy highlights the transformation of the role of territory in a shift from juridical sovereign power to biopower, Foucault ultimately abandons any concern for the *qualities* of territory (Elden 2009) despite the fact that "the problem of population and its improvement necessarily brought the state *directly into contact with its territory*" (Braun 2000: 12). A genealogical analysis of confluences of race and nature in the Altamaha offers ways to revisit and amend Foucault's concepts of governmentality. Forcing governmentality to work with social natures alters Foucault's thesis and suggests possibilities for bridging between other approaches to race and nature previously barred by Foucault's inadequate theory of territory.

In an essay that attempts to decouple political territoriality from central state authority, Agnew (2005) argues that the conventional conception of the relationship between sovereignty and territory developed from the treaty of Westphalia through Enlightenment and Romantic ideals to a view of "sovereignty as unlimited and indivisible rule by a state over a territory and the people in it" (437). In this reductionist model, we can all assume our positions as freethinking, liberal humanist subjects naturally ordered in distinct populations, while territory becomes an obvious object for inquiry, not really more complicated than a lump of earth. From this vantage, it makes sense to discuss fragmentations and unifications of territory as if juridical decree, moving guard posts, and redrawing lines on the maps are sufficient to annex and assert control of territory. Territory is simply the ground that has been staked as an either/or category for the question of what authority has exclusive control over the legitimate exercise of power (Agnew 2005: 441). In trying to disrupt this conception of a strict correlation between political

authority and sovereign territory, Agnew (2005) argues that space and power have other possible arrangements than "the territorial division of space" into "blocks of rigidly bordered space" with "domination or control as the modality of power upon which the bordering relies" (442). His argument desires to wrest space from the predominant understandings of it in terms of conventional territory in order to be able to recognize "networked flows" of power independent of "territorial control" (442).

The problem of territory for biopolitics prevents effective tools for analyzing and confronting powerful imbrications of race-nature-state. Theoretical argument in this dissertation is for a materialist conception of territory, one that not only frees analysis up from limitations of statist approaches but that also retains a connection to all the terrestrial beings—not citizen-subjects alone—that come to populate territories. Insisting on the materiality of territory means refusing arguments that take the relations between nation, state, subjects, and territory for granted. Such assumptions relegate the concept of territory to a tautological and derivative notion dependent upon the ontological universalism of the state: that is, we are left with territory as the spatial extent of state sovereignty laid out upon the Cartesian grid of absolute space (Wainwright 2008; Elden 2007; Harvey 1996). The facile distribution of the earth into territories of nation-states is a colonial framework "that presupposes the natural existence of territory, without asking after its ontological basis" (Wainwright 2008: 20). Thinking territory differently—within and against this ordering of thought by the nation-state—can be a conceptual key for opening a passage between the neglected territories of biopolitics and corporeal dynamism of the performative and political materiality of social natures.

Thinking territory as a necessary process for the materialization of individuated being at the conjuncture of "the political-economic, the technoscientific, and the ethical-political," allows

for a concept of the performative and volatile materiality of bodies, wherein "perception names the capacity of bodies to enter into combination with other bodies" in spaces of *agencemen*t or assemblage (Braun 2006a: 645, 673). The state is not an entity so much as range of *dispositifs* (Braun 2014) understood in terms of Deleuze and Guattari's concept of territorial assemblage, where, importantly, assemblage is the translation of *agencement*. Many contemporary black studies scholars insist on moving beyond social construction to examine how race is formed, performed, deformed, and reformed through processes of assemblage. As black feminists have made clear, there is no race without gender, no "woman" without race, but the material presence and performance of race is achieved through myriad other bodily relations, including rhythmic differentiations and returns breaking and forming capacities and viscosities haunting the hyphen of human-environment, the conjunctive between of human and nonhuman.

Ultimately, the critique levied in *The Racial State* is an affront to the project of liberalism that jives conceptually with Foucauldian attacks on the same in terms of biopolitics and governmentality. Goldberg discusses the biopolitical aspects of the racial state using the motif of racial penetration. As the racial state as an institution increasingly penetrates everyday life, "all comes to be race" and "race comes to be all" (117). He argues "the state not only invades the body of subjects. It goes a long way in making bodies what they are, and by extension who they are" (115). Goldberg cautions, again following Foucault, that we should not "reduce all subject formation and subjection to the political, directly or indirectly to the state institutionally conceived" in a form of economism or statism (117). Instead, Goldberg clarifies:

> The (racial) state, in its institutional sense, must be seen thus not as a static thing but as a political force fashioning and fashioned by economic, legal, and cultural forces (forces of production, of sociolegality, and of cultural representation)…In short, the state is a contestant in the markets of representation, of who speaks for whom and in and on what terms. (109)

In contrast to Goldberg's claim that the state is just one "contestant" in the politics of representation that situate modernity, Donald Moore, Jake Kosek, and Anand Pandian argue in the introduction to *Race, Nature, and the Politics of Difference* (2003) that race and nature are the preeminently "constitutive features of modern power" in the sense that "natural bodies form the *terrain* and instruments of power's expression" (15, emphasis added) and "there are few forms of nature that do not bear the traces of racial exclusion" (2). In an analysis of the cultural politics of race and nature, Moore, Kosek, and Pandian "refract" their discussion "through the three conceptual prisms" of *work, terrain,* and *power* (6). In thinking race and nature as *work*, the authors emphasize the capacity of these concepts to do the work of power. This theoretical conceit also points to the work necessary to maintain the identities, definitions, and boundaries marked by the ideological work of race and nature through laborious cultivation, renewal, defense, and reproduction. In this section of the essay, the authors also interrogate the tendency of environmentalists to discursively "suppress evidence of the insistent human labor that has shaped and reworked the very terrain to be protected from the corrosive force of history" (7). They contrast this tendency with Marx's notion that nature and human worlds are connected by a shared metabolism catalyzed through human labor. They suggest that race works variously, sometimes labouring to biologize culture, other times "racializing the biology of nonhuman species" (8).

Also drawing on Foucault, the authors' engagement with work points to the "disciplinary force of modern power" called upon to produce the human nature of the workers who perform the metabolic labor of Marx's metabolism, arguing "that the very substance of nature is made and manifest through material and symbolic practices" (8). Landscape is both a problematic and potentially fruitful term for this analysis: "inherently duplicitous… the term… refers both to [a

way of seeing] and the geographical territories that are seized by [this visual perspective]" (11). Terrain, as a conceptual lens allows for the conception of landscape as both product and process that "articulate both culture and nature, seer and scene" (11). Race and nature are both implicated in the political terrain where the boundaries between "objective ecology of natural processes" and the "human…world of ideology, discourse, and history" (11). In this theoretical move, we can see the similarities between this framework the authors call the "cultural politics of race and nature" and feminist or feminist-inspired scholarship that insists upon performative materiality, the hybrid natures emergent from particular social contexts, and the assemblages that constitute inventive life (Braun 2008). This terrain upon which race and nature perform the work of power is importantly linked to the colonial practices that deterritorialize racial others to produce national landscapes in the image of racial hegemonies. Andrew Baldwin has developed such an approach more recently in an essay on the racial landscapes produced through carbon markets and carbon-offset trade schemes (Baldwin 2009). The final prism through which Moore, Kosek, and Pandian explore the interconnections and interpenetrations of race and nature is the less subtle, broader sweeping category of "modern power." The key here is that "power works on and through nature in several overlapping ways: through violent acts of domination, through the constitution of subjects and truths, and through the maintenance of these identities and differences across time and space" (15).

From this perspective, an important point emerges: "natural bodies form the terrain and instruments of power's expression" (15). In this argument, the authors draw upon Haraway's intervention in discussions of the natural and artificial, the limits of the body, and the possibilities for cyborg humans living in hybrid natures (Haraway 1989) to contest standard approaches in environmental justice scholarship that see "nature as a given material environment

and race as a fixed field of difference" (16). Here Moore, Kosek, and Pandian problematize the twin tropes of nature as *repressive* and nature as *productive*. This pairing is used to contrast understandings of nature as both produced by and productive of social relations with understanding of a true nature that is actively repressed, rejecting the view of "power as a repressive force from which downtrodden natures and cultures must be liberated" (15). Emphasizing the significance of this trope for modernist thinking and ways of being, the authors explain, "We suggest that such understandings of a repressive nature—one that itself demanded repression—form one of the original maps of the structure-agency problematic" (15).

The state is not a fixed, stable entity. Moore, Kosek, and Pandian conclude their elaboration of a method for analyzing the cultural politics of difference as follows: "While the powerful work of race and nature shifts across historical, geographical, and cultural contexts, it remains integral to the rule of modernity rather than an exception" (17). But where is the state in this rule of modernity? While their argument is not directly at odds with that presented by Goldberg in *The Racial State*, by foregrounding the coupling of race and nature their approach to the "disparate sites where articulations of race and nature work together to powerful effect" (4), Moore, Kosek, and Pandian announce an "emergent field" – "the cultural politics of race and nature" – that explicitly rejects and distances itself from the structural determinism that conditions so much of the continental European intellectual tradition (5). In distancing their use of Gramscian analysis from the Althusserian economic determinism of the "last instance", Moore, Kosek, and Pandian build more firmly upon Stuart Hall's concept of *articulation*: "An articulation both brings together disparate elements and, in the process of assemblage, gives that constellation a particular form and potential force" (3). Distinct from the definition of *formation* deployed by Omi and Winant (1994), Moore, Kosek, and Pandian argue that "the shape of the

formation, the effectiveness of the linkages established among its elements, and the impact it will have on cultural, social, and political processes is … not able to be 'read' off from an underlying structural logic" (3). Goldberg similarly draws on the work of Stuart Hall and distances his argument from the Althusserian "last instance," emphasizing that the "modern state was never simply an epiphenomenon or conduit of capital" (101), concluding, "thus it is no longer necessary to maintain determination of the state by the interests of capital 'in the last instance'" (103). Acknowledging the significance of Althusser's concept of interpellation for "refocusing the problem of ideology at the interface of the social and the self," Goldberg further calls upon Foucauldian notions of governmentality, which make it "conceptually possible to demonstrate the effectivity of social power upon through, and by subjects in their self-making without reducing such power to the often questionable assumption of institutional state imposition" (105).

What are the barriers to thinking environmental politics as biopolitics? But the state and its institutions remains the conceptual center- and set-piece for the entirety of Goldberg's project, despite the limitation of the analytic of power that centers the state that he diagnoses. The race and nature approach is at the opposite end of this spectrum between structure and contingency within the realm of cultural politics laid out by Stuart Hall and Michel Foucault: Rather than positing the state as overdetermining subject formation, we see the discursive contours of race and nature as critical to shaping identities enacted through historical struggles and the practices of everyday life. Structural determination is here supplanted by a politics of contingency, open-ended historical processes without guarantees. (Moore, Kosek, and Pandian 2003: 4). Indeed, as with many of the essays in their edited volume, the politics of contingency for Moore, Kosek, and Pandian relegate any mention of the state whatsoever to such discussions of structural

determination. This weakness is mirrored if we use *The Racial State* as an analytic keystone for approaching the politics of race and nature, because, despite the theoretical accord between Goldberg and others who deploy the work of Stuart Hall and Foucault, understanding the significant role that race plays in modernity primarily through the lens of the state ineluctably silences assemblages only contingently related to state powers and practices.

My argument is that a merger of postcolonial analytics of social natures committed to a cultural politics of race, nature, and difference with environmental justice politics concerned for the role of the racial state provides a means to transform makes Foucault's biopolitics and a pathway for conducting research at these intersections differently.

Karen Bakker (2010) makes a distinction between biopolitics and conventional politics that is characteristic of many geographers who take up Foucault's concept in the treatment of environmental issues. Conventional politics, for Bakker, refers to "contested relationships of power and authority" (221) while biopolitics refers to specific efforts of modern governments "to secure the health and productivity of the population" (190). This distinction stems from Foucault's elucidation of what he termed governmentality, a form of state "rationality" that centered not on the disciplinary regulation of bodies and resources but on the cultivation of life in terms of population. However, the constrained uptake of the notion of biopolitics to refer to specific instances of a certain form of state power misses an important dimension of Foucault's work, which is, at its heart, to challenge the very notion of a conventional politics of power and authority. Moreover, such selective use of Foucault's concept often allows researchers to avoid one of the most crucial claims of his writing on governmentality—that it guarantees the performance of power operates through a racial state. However, a major barrier to using biopolitics and governmentality in political ecology and social natures research is that the

territory is given; the very stuff of social natures, the whole wealth of thinking on the social production of nature, gets swept aside in Foucault's dismissal of territory in the formulation of security and biopower under a regime of governmentality with its political technologies of calculation addressed to the population. Thinking with geographers working on environmental issues who have taken up biopolitics to address neoliberal environments (Mansfield 2012a, 2012b, 2012c; Guthman and Mansfield 2012; Bakker 2010; Kosek 2006), I argue that such research could be more fruitful if the problem of territory in the theory of biopolitics were addressed head on, something that has for the most part been left to political geographers (Rose-Redwood 2011; Crampton 2011; Elden 2007, 2010; Hannah 2009), with the exception of Braun (2000). The point is not just that the inadequate treatment of territory means biopolitics does not work well for studies of environmental issues. The point is that scholars in the traditions of political ecology and social natures research have a great deal to add to the debates about how we understand the production of calculable territory in Foucault's framework.

To be clear, the territory this dissertation attempts to recover in a theory of biopolitics is not the typical one. John Agnew (2005) has argued that the conventional conception of the relationship between sovereignty and territory sees "sovereignty as unlimited and indivisible rule by a state over a territory and the people in it" (437). In this model, liberal humanist subjects can be naturally ordered in distinct populations, while territory becomes a self-evident object for inquiry. Territory is simply the ground that has been staked as an either/or category for the question of what authority has exclusive control over the legitimate exercise of power (Agnew 2005: 441). In trying to disrupt this conception of strict correlation between political authority and sovereign territory, Agnew (2005) argues that space and power have other possible arrangements than "the territorial division of space" into "blocks of rigidly bordered space" with

"domination or control as the modality of power upon which the bordering relies" (442). His argument desires to wrest space from the predominant understandings of it in terms of conventional territory in order to be able to recognize "networked flows" of power independent of "territorial control" (442).

Radically reconfiguring biopolitics means attending to the qualities of territory as naturecultures and doing justice to the historically contingent but no less constitutive exclusions of race forming the concept of the human in modern liberalism. By using the resources of social nature research and reconfiguring the territory of biopolitics the theoretical discussions of this dissertation provoke avenues for thinking research bridging between environmental justice scholarship and political ecologies wrested from the constitutive displacements of race that have supplemented traditional political ecologies. Building on historical geographies of social natures, this theoretical approach highlights the need for decolonizing spaces of political ecology—even in metropolitan Atlanta where colonial struggles might seem so distant—if we are to understand how race and nature contour terrains of power in movements of purity and pollution through contemporary watersheds of the Altamaha basin.

Much political ecological analysis focuses on the ontologically defined entities known as neoliberal environments, theoretically conceived as the product of the *application* of abstract neoliberal principles, logics, policies, and projects to the material givens of the biophysical world that environs and sustains human societies (Heynen et al 2007; Castree 2008a, 2008b). Building upon and yet distinct from much work in political ecology, the approach taken here is that the very materiality of the nonhuman world is nether simply given, nor even transformed from some original nature by capitalism. Indeed, the visibility, legibility, the very haecceity of the nonhuman is only ever present (or *presenc-ed*) via technological formations—formations that

also *presence* the human as such. The boundary between human and nonhuman—the hyphen connecting "human-environment interactions"—is produced of social and political relations (Harraway 1991, 1989), and any means of *knowing* nature—biophysically, libidinally, spiritually—is always freighted with and conditioned by political economic structures of the capitalist present borne of colonial and plantation histories (Braun 2002; Goldman et al 2011). The palpable, tangible, empirical presence of environmental entities is a technological apprehension of the world, one that cannot be severed from the historical, geographical, political, and economic conditions of its development and deployments.

In this sense, technologies—ways of sensing, ways of knowing—are a precondition for apprehending vast and complex networks of nonhumans as countable nouns or discernable processes to be valued, calculated, protected, or impaired (Goldman et al 2010). Technologies, in this broadly Heideggerian sense, not only provide us the means to harness nonhuman resources and perpetrate, or regulate, environmental degradations, but at the same time, these technologies apprehend us, render us a part of a world co-produced of so-called "human-environment interactions." The processes of subject-formation that are hallmarks of Althusser (1990, 2005), Hall (1980, 1997), and Foucault (1990, 1995, 2002), importantly and increasingly include a suite of "human-environment" technologies. I argue that these neoliberal technologies have introduced environment and environmental identities into the heart of powerfully imbricated operations of state, sovereignty, politics, and identity. The methods designed and employed for this research were intended to answer such theoretically informed questions about innovations in politics and governance as human-environment technologies have become more hegemonic. My starting point was that watershed subjects and riparian whiteness, as entities cultivated in contemporary river and watershed movements in Georgia, merit analysis as versions of what Althusser calls

interpolation and Foucault considers in terms of discursive subject formation. As such, the methods are meant to extend this form of political analysis beyond more traditional fields of analysis such as relations of production and consumption of commodities, state apparatuses like the penal system, beyond disciplinary techonologies of madness, gender, sexuality.

We cannot simply ground politics in the irreducible facticity of environments and bodies, who are assumed to have a pre-political baseline being grounded in a material world composed in advance of fixed, transcendental forms. The human species is not simply given as categorically differentiated from other species in the unity of *Hominidae*, because the difference between primates that accounts for resemblances in the diversity of human bodies is a result of historical process not timeless law. If the identity of a species is essentialized as difference within a higher unity of genera, this process is elided and reduced to an essence (DeLanda 2002). This ontological position refuses the way in which the facts of life can be naturalized and depoliticized, but more is needed to conceive the politics of life. Foucault, Agamben, and Esposito have argued that politics and life are intimately bound together in that sovereign power functions largely in its hold over life, both as *zoē* and *bios*, whose difference is continually undermined by the operations of biopower:

> …what characterizes modern politics is not so much the inclusion of *zoē* in the polis—which is, in itself, absolutely ancient—nor simply the fact that life as such becomes a principal object of the projections and calculations of State power. Instead the decisive fact is that, together with the process by which the exception everywhere becomes the rule, the realm of bare life—which is originally situated at the margins of the political order—gradually begins to coincide with the political realm, and exclusion and inclusion, outside and inside, *bios* and *zoē,* right and fact, enter into a zone of irreducible indistinction. (Agamben 1998: 9)

A fully materialist theory of politics, therefore, refuses to ontologically separate *the real* as a nature or *physis* brimming with *zoē* in a realm distinct from the being of *technē, epistēmē,* and

bios. It is important to recognize the way any one of these excluded categories can come to dominate discussions of political ontology through omission of the others. As Braun and Whatmore (2010: xi) caution, for example:

> …discussions of biopolitics (e.g., Agamben 1998; Esposito 2008) too rarely take into account [the] third term—*techne*—without which the 'becoming political' of our biological existence can hardly be conceived. Divorced from the things that constitue human life as such, biopolitics instead comes to be cast in ahistorical and metaphysical terms, unable to account for the retinue of objects and technical knowledges that condition the vitality of bodies and avail them to political calculability

This example demonstrates how analyses operating under so-called relational ontologies have a capacity to slip into a sort of sleight of hand in which relational processes crystallize into "permanences," for which causation can be attributed to something transcendental and known in advance, such as the logic of capital or the colonial reason of Enlightenment (Mitchell 2002, Braun 2006). Concern for the resurfacing of essentialism in materiality that occurs when explanation of processes turns fixed forms into processual essences need not lead to "hypostisizing" fixations on flows and instabilities (Harvey 1996). In order to guarantee that replacement of "timeless categories" with historical processes avoids falling into essential processes explained by transcendental logics, one needs to recognize the apparent permanences of nature as multiplicities arising from an active and productive kind of differentiation in a world that is fundamentally open. Critically, this differential concept of the politics of being, by replacing essence with multiplicity, allows for an immanent understanding of ontogenesis that does not require a supplementary dimension from which individuation of particular entities can be explained as a totality or unity (DeLanda 2009; Deleuze 1994).

2.6 Summary

This dissertation examines environmental issues with a theory of political materiality, which in turn suggests a material concept of politics. Within this theoretical framework, one cannot assume neutral or inert facts about the environment, and nor can one rely entirely on positional understandings of identity at work in the social fields of difference attributed to social constructions alone. For me this means extending a conception of the politics of difference developed by many feminist researchers to environmental bodies, which replaces the "biologically determined, fixed, and ahistorical notion of the body," not with a purely social constructionist view that continues to direct political struggle against patriarchy and sexual violence toward the "neutralization of the sexually specific body," but with (Grosz 1994:16-17) that liminal spaces of passage, such as those limned by Gloria Anzaldua in *Boderlands/LaFrontera* (1987), can be brought to bear on environmental issues, wherein the volatility of bodies—human and nonhuman, organic and inorganic—is both a necessary starting point and conclusion for opening environmental futures to more justice. At the most straightforward level, a politics of difference refuses a tendency of Western thought to elide difference, "where difference means particularity, the heterogeneity of the body and affectivity, or the inexhaustibility of linguistic and social relations without a unitary, undifferentiated origin" (Young 1990: 10). But I use politics of difference to indicate a more thoroughly ontological concern with difference that asserts a concept of multiplicity to refuse the transcendental, basically Platonic concept of matter for which essences give things identity (DeLanda 2002). In this ontology, or theory of what exists, being begins from a concept of difference as the essential driver of morphogenesis and individuation, which occur through relational processes that are immanent to the material world (DeLanda 2002, Deleuze 1994 [1968]). In Aristotelian models of

being difference "has no content in itself, only a content in proportion to the formally different terms of which it is predicated" (Deleuze 1994 [1968]: 33).

How can we account for the legibility and calculability of a discrete set of riparian bodies with attention to the politics of difference? Riparian here means those bodies proximate to a river, in contact with it, or inhabiting the banks. The riparian zone or riparian buffers are key components of a river's productivity, both in terms of economy and ecology. They are also always in transition, themselves zones of indeterminacy, by turns, brought inside the flow of the river and left behind along with an active layer of bodies formerly part of the stream's hydraulic flow. Things enter or re-enter and become part of the central flow at the leading edge of a flood pulse, and things sediment out at the trailing edge. A host of ecological relations emerge of and are sustained by this periodicity, these repeated foldings and unfoldings of inclusion and exclusion from the thing that *is* the river. Not only is the coursing of water that gathers from a network of channels itself a space of passage, of constancy in movement, but the riparian zone too is a place of frequently punctuated but often enduring becomings. Riparian space can be thought of as the assembling space of these becomings whose processes are driven by differential flows containing both the *turba* of open movement and the *turbo* of concrete durabilities (Serres 2000). To conceive of riparian space it is necessary to think about surpluses besides those extracted by capital, excesses that spill beyond the scientific and legalistic borders enframing bodies and collectivities. These bodies brim with seeping desires and lines of affect that percolate across boundaries of interiority and exteriority that are established through processes of individuation and territorialization. How does the production and management of riparian space according to environmental regimes of subject formation and technological interventions have specific and intimate ties to the biopolitical ordering of racial bodies?

Riparian means of or relating to riverbanks, and the root *ripa* connects this term etymologically with the term *rift*. Marx's concept of social and ecological metabolism is founded on the idea of a rift between humans and the Earth. Movement across this rift is possible only through labor understood as "a process between man and nature, a process by which man, through his own actions, mediates, regulates and controls the metabolism between himself and nature" (Marx 1976, 283). There is a problem for thought, though that is compelled by the fact that the production and urbanization of nature theses that underwriting the debates about socionature over the past couple of decades tend to retain an idea of metabolism between established entities who hybridize, who, indeed, are forced (from pure categories or distinct stabilities) into manufactured hybridizations by the operations of global capital and urbanization. And what this enframing of the Earth leaves intact is an implicit spatiality imposed by the difference of the dialectic that always can assert itself through the higher unity of a modernity of global capitalism, an n+1 dimension wherein dialectical analysis can perform the assembling, in the last instance, always to reveal the unity of the earth.

Bruan (2004) explains this passing of the nature-culture problematic in terms of a non-modern ontology that is necessarily anti-disciplinary and organized around the merger of thought and politics in active experimentation with the "explosive corporeal productivity" of the Earth (Casarino 2002), rather than at the disjuncture of contemplative representation (philosophy, thought, analysis) from the world of actions and affect (experience, concrete, politics):

> … the world does not consist of discrete 'things' that are brought into relation through some sort of external determination (such as found in versions of dialectics), resulting in hybrids that are mixtures of pre-given pure forms, but instead consists of flows and connections within which things are continuously (re)constituted. … Whereas the [ontology of form and essence] brings us to the problem of understanding how distinct things 'interact,' the [ontology of flows and connections] asks how it is

> that things come to attain provisional form and a certain durability.
> (Braun 2004, 171)

Using a performative materiality to work the edges of the gap between political ecology and environmental justice scholarship, the theoretical tools for this research were aimed at thinking through the territory of biopolitics. Using posthumanist critiques from black studies and working towards an environmental justice attuned to the deep histories of the racial state, the theory outlined in this chapter lays out a framework for diagramming the territorial assemblage of biopolitics by thinking through the Altamaha as an apparatus that materializes race-nature-state.

CHAPTER 3: METHOD

3.1 Introduction

The methodology of this research combines genealogy, deconstruction, and qualitative methods to understand how people are entangled with and invest in political ecologies of water in the Altamaha basin. Working with a conception of social nature, this project sets about destabilizing the identity of the river system as an ontologically given object, recognizing first and foremost that such identities as external nature and wilderness are "socially produced" (Smith 1990). Not only does the conception of the river system as external to society mask the entanglements of society *and* nature that geographers have understood variously as naturecultures, cyborgs, hybrids, networks, knots, and assemblages (or *agencements*) (Braun 2002, 2005, 2008; Whatmore 2002; Latour 2004; Swyngedouw 1999), but it also tends to naturalize relationships of domination and oppression bound up with environmental politics (Braun 2006; Braun and Castree 1998; Castree and Braun 2001). Before entering the field, I began research with a Foucauldian genealogy as a method for querying the Altamaha River Basin as an object of knowledge and technology of territorial governance. This method addresses the Altamaha as it has been archived through apparatuses of power/knowledge/territory by surveying a historically shifting and diverse collection of sites and flows in economic and environmental relations. The genealogical method works to understand the Altamaha as an entity orienting political and libidinal investments dating back to 18th-century British colonial knowledge production and territorial assemblage of the basin. The qualitative methods presented in the following section were conducted in light of an initial breaking apart of the river system as

a self-evident, or biophysically given entity. Breaking apart the identity of the river system through genealogical analysis and deconstruction allows us to explore something that environmentalist, development, and management discourses on the river system consistently leave unexamined: that "race and nature work together" (Moore, Kosek, and Pandian 2003, 1).

Methodologically, then, my fieldwork was contingent upon genealogical preparations that were iteratively trucked into and back out of the field, and similarly weave in and out of the empirical analysis. Before moving on to detailed explanation of the fieldwork I conducted, I first present a synopsis of the genealogical analysis upon which the fieldwork was contingent, and which underlies the analysis of the qualitative data presented in the three empirical chapters. After an overview of the fieldwork, I move on to identify the specific forms of governance that the fieldwork addressed. A final section then articulates how genealogy and fieldwork are construed through a methodology of productive interference, and makes an argument about my position as a researcher and the positionality of fieldwork.

3.2 Genealogy

Through a genealogy of the Altamaha I ask what multiplicities are occluded by the framing of the Altamaha as a self-evident biophysical entity—a relatively "intact" hydrological and ecological system. This genealogical research equipped me for fieldwork with an understanding of the "buried epistemologies" at work in contemporary discourses of conservation. Briefly summarized, this genealogy establishes some of the modes by which, throughout the basin, the conservation framework employed by environmentalists turns on a conception of nature and conservation in which the ecological value of the river system is routinely identified with distance from development, labor, production, and (sub/ex)urbanization. These hydro-social relations are seen as incursions to an external nature or wilderness that

threaten the "hydrologically intact" identity which is to be protected or managed to maintain the health of riparian and aquatic environments. In this way, environmental governance of the Altamaha is addressed to integral body whose ecological health can be measured largely in terms of the stresses of development on interconnected fluvial and riparian ecosystems. At the same time, an undifferentiated concept of the human is figured in a state of alienation or disconnection from the river, despite depending upon its flows for water and energy production. Environmental degradation is often implicitly attributed to this alienation, and political engagement in environmental governance is explicitly linked to a prerequisite "reconnection" of people to the rivers flowing through their lives. Connectedness, then, takes on universalizing narratives that are colorblind and gender neutral, and as argued in subsequent chapters, tend to reinforce and reproduce racial inequities.

My genealogical analysis of the Altamaha is meant to account for its roles in the production of territory, from the earliest days of British claims to land bounded by its waters to the contemporary situation of the river system under a neoliberal regime of governmentality. The analysis begins from a position that nature, in the sense of external nature and the natural world, is not understood well enough through the convention of a nature-culture dualism (Whatmore 2002). From a genealogical perspective, the Altamaha is not simply a basin, but rather a multiplicity of political sites wherein social natures are continually formed and reformed in processes of consolidation and emergence (Castree and Braun 2001). Resisting a dichotomy between natural and social phenomena (Castree 2002), this genealogy was designed to consider confluences of race and nature by attempting to think through the river system and its riparian environments via a displacement of the nature-culture problematic to diagram the viscosities, volatilities, and violence entangling race and rivers. Where Braun (2002) used "displacement" as

the organizing concept for a genealogy of British Columbia's intemperate rainforest, the organizing concept I employ is confluence. While displacements of race, whether in the displacement of people of color from environmental governance or the displacement of narratives and experiences of non-white forms of connection to watersheds, is central to the performative materiality of the Altamaha, confluence better situates my inquiry in the conjunction of social natures scholarship and black studies scholarship.

Using genealogy as a method, I do not ask after *relations* between humans and environment as if they each reside in distinct ontological domains, but instead I approach these associations of humans and nonhumans as ontological problems themselves: how do assemblages of humans and nonhumans attain certain consistencies and durability in the Altamaha basin (Braun 2004)? What multiplicities are occluded in *knowing* the Altamaha as a self-evident biophysical entity—a relatively "intact" hydrological and ecological system? There are a host of complex hydraulic relations that connect the river system with networks and fixtures of social, economic, and political relations. Despite these human-environment "intra-actions," the conservation framework employed by most environmentalists turns on a conception of nature and conservation in which ecological and aesthetic value is identified with distance from development, labor, production, and urbanization (Barad 2003). Confluence, then, as an organizing concept for a genealogy, not only orients the empirical choices of what to include in the survey but also signals the refusal to abide a nature-culture dualism through which hydro-social relations are understood as incursions to an external nature or wilderness that threaten the identity which is to be protected, managed, or governed.

Rather than beginning with the system as an essentialized object over which competing interests struggle for access and resources, this dissertation research uses Foucault's (1997)

genealogical approach to ask how the Altamaha River system as an identity "*enters* history as an object of economic and political calculation, and a site of emotional and libidinal investment" (Braun 2002). Asking after the manner in which the river system itself *enters* history is considerably different than a historicist project of asking about the history of the river. The purpose of genealogy is not to find the final or original essence of the Altamaha, but to explode the notion of a single, transcendental object itself, to reveal multiplicities, differences, and disparities silenced by the contingent emergence of such an object. My research problematizes the framing of the Altamaha River system as a self-evident, biophysical entity – a relatively "intact" hydrological and ecological system that provides "water resources" for economic and social processes. Rather than beginning with the system as an essentialized object over which competing interests struggle for access and resources, this dissertation research uses Foucault's (1997) genealogical approach to ask how the Altamaha River system as an identity "*enters* history as an object of economic and political calculation, and a site of emotional and libidinal investment" (Braun 2002).

Asking after the manner in which the river system itself *enters* history is considerably different than a historicist project of asking about the history of the river. Genealogical analysis means reversing the analytic movement of historicism by supposing the putative object under study does not exist, as such, prior to its emergence on the stage of history. As Foucault explains in the opening of the lectures published as *The Birth of Biopolitics*, this method does not consist of asking whether or not the Altamaha exists, but precisely moves by first assuming such an identity does not exist, and then proceeding by making history nonetheless, by tracing events and practices "apparently organized around something that is supposed to be" the Altamaha.

Destabilizing the identity of the Altamaha is fraught with dangers; how do you convince people to care about something that you admit to be an unstable contingency? The rationale for this genealogy is to problematize the table around which stakeholders are offered seats and whereupon they are supposed to come to consensus. It's a strategic gambit: by exposing the political closures resulting from the reduction of multiple natures to a singular truth of biophysical reality, one hopes to open eco-politics to a greater range of possible environmental futures. The purpose is not to find the final and original essence of the Altamaha. The purpose is to explode the notion of a single, transcendental object itself, and to reveal multiplicities, differences, and disparities silenced by the contingent emergence of such an object. Empirically, genealogy implies a process of reading widely and almost endlessly, but also transversally across all manner of texts to trace the discursive formations that make the object of the genealogy legible.

By breaking apart the identity of the river system through genealogical analysis, I want to explore something that environmentalist, development, and management discourses on the system consistently leave unexamined: that "race and nature work together" (Moore, Kosek, and Pandian 2003, 1), "that articulations of nature and difference are central to the formation of landscapes and the distribution of resources" and that "cultural assemblages of nature and difference are … formative of subjects, sentiments, and regimes of rule" (Kosek 2006, 21). In asking how riparian environments become meaningful through contingent sets of discourses and practices, I also ask after the role of nature in sustaining relations of racial inequity. While there is considerable work on the confluences of race and nature in Canada (Braun 2002, Baldwin 2009, Baldwin, Cameron, and Kobayashi 2011), and in light of Kosek's (2006) work on these entanglements in the political life of forests in northern New Mexico, research of this kind is

notably lacking in the southern U.S. Engaging with a growing number of scholars in geography, anthropology, and American Studies who study the "cultural politics of race and nature" (Moore, Kosek, and Pandian 2003, 6), this genealogy of confluences exposes the "performative ties that bind categories of 'nature' and 'race' in the exercise of white normativity and power" (Baldwin, Cameron, and Kobayashi 2011, 3).

The archive of documents examined for this genealogy is extensive. The choice to include or exclude archival materials for this genealogy stemmed from the organizing concept of confluence and the significance of particular texts in contemporary river conservation culture. First, I examined colonial texts from the 18th century that highlight the role of the Altamaha in the practices of knowledge that were essential to the establishment of a colonial territory and the displacement of indigenous peoples. From colonial documents including treaties and letters from officials to the natural history and travel narrative of William Bartram, the genealogy explores the Altamaha as a technology in colonial governance. I also examine documents about the production of rice and cotton during the plantation era, and subsequent periods of economic development that entangled the Altamaha with the nearly total clear-cutting of the extensive longleaf pine forest that dominated the uplands of the basin as well as the hardwood bottomland forests of cypress and tupelo that dominated its swampy floodplain. Finally, the genealogy examines more contemporary texts. First, the legal instruments of environmental law such as National Pollution Discharge Elimination System (NPDES) permits and judicially administered federal consent decrees, means by which the force of the Clean Water Act is applied as law. Second, the production of environmentalist nonfiction and paintings focused on the Altamaha as "southern nature writing."

A genealogy of the Altamaha compels us to situate environmental justice in biopolitical terms and provoke theoretical questions about Foucault's treatment of territory. A genealogical study of these confluences, I argue, obliges biopolitical analysis to extend governmentality from population with givens to the conjunction of population and territory with qualities. A genealogy that is organized across the series of confluences I have outlined forces collisions between different registers of environmental justice, cultural politics of race and nature, colonial territories, and legibilities of governmentality. This genealogy of the confluences of race and nature in the Altamaha demonstrates three important points, which emerged from a methodological practice of trucking genealogy into and back out of the field:

1. Territory and geopolitics are demonstrated to require analysis of social natures;
2. The cultural politics of race and nature, attentive to buried colonial epistemologies and historical geographies of whiteness, can be shown to bear significantly on contemporary geographies of environmental racism in the U.S. Southeast;
3. The problems of colonial absences and transcendental biophysical givens in Foucault's governmentality can be addressed by merging this concept with the postcolonial strengths of race and nature studies.

This kind of research is risky and unsettling in a number of ways, and for different audiences or publics. First, precisely because the Altamaha is a site of political contestation, destabilizing its identity is fraught with the danger of undermining genuine efforts to conserve the river system and its riparian environments. How can you preserve a watershed if the watershed is an unstable historic contingency? Such a question is particularly pertinent in the context of environmental debates centered on the production and proliferation of doubt by interested parties working to thwart state regulation by undermining the scientific justification of it. The rationale for running

this gambit is that current politics over water are ineffective, and the cutting edge of genealogical inquiry, without promising a clear program for future politics, at least has the potential to unsettle inertias of anti-politics in which the cynical amplification of uncertainties has such sway. By exposing the violence that inheres in the reduction of multiple natures to singularities, I hope to open eco-politics to a greater range of possible environmental futures (cf Kosek 2006). A second concern is that genealogy is necessarily partial and never complete. The purpose of genealogy is not to find the final and original essence of the ARS, to retrieve the truth of this object from the fray of historical errantry. The point of genealogy is not to set the present straight by finally arriving at some teleological endpoint from which it is possible to "compose the finally reduced diversity of time into a totality fully closed upon itself" (Foucault 1997, 86). The purpose is to reveal multiplicities, differences, and disparities silenced by the contingent emergence of such an object.[i] Foucault (1997) famously recounts the mode of genealogical inquiry as "gray, meticulous, and patiently documentary" (76). The empirical mode of genealogy is portrayed as an endless process of reading and reading widely, even indiscriminately. However, the choice of what is to be included in the genealogy of the ARS cannot be indiscriminate. What accounts for the choices? In this project, the crux of my genealogy lies in the confluence of race and nature, and this method was used to think through how we are to understand biopolitical territory in terms of racial bodies differentially subject to the environmental violence of the racial state.

Foucault fervently distinguishes this purpose—what he calls "effective" history—from the practices of what he calls traditional or continuous history:

> The traditional devices for constructing a comprehensive view of history and retracing the past as a patient and continuous development must be systematically dismantled. Necessarily, we must dismiss those tendencies that encourage the consoling play of

> recognitions. Knowledge, even, under the banner of history, does not depend on 'rediscovery,' and it emphatically excludes the 'rediscovery of ourselves.' History becomes 'effective' to the degree that it introduces discontinuity into our very being—as it divides our emotions, dramatizes our instincts, multiplies our body and sets it against itself. 'Effective' history deprives the self of the reassuring stability of life and nature, and it will not permit itself to be transported by a voiceless obstinacy toward a millennial ending. It will uproot its traditional foundations and relentlessly disrupt its pretended continuity. This is because knowledge is not made for understanding; it is made for cutting. (Foucault 1997, 88)

This last phrase marks an underlying commitment in my research: distinguishing between thinking thought as the quest for a total understanding and thinking thought as the cutting edge of a conceptual enterprise that is itself situated in the politically active and contested imbrications of ontology and epistemology.

3.3 Fieldwork

The qualitative methods employed were conceived with and contingent upon genealogical analysis, a deconstructive movement that questions the material presence and performance of the basin before talking with people about how they work to protect it. The fieldwork conducted for this dissertation research considers fairly recent innovations in the governance of fluvial systems and their adjacent riparian environments. Whereas people in the river and watershed groups I studied through participatory and qualitative research characterize their organizations and activities as oppositional to recalcitrant and underfunded state regulatory agencies, my project demonstrates how these "grassroots" efforts are in fact part of and imbricated with the state. As Bruce Braun puts it rather succinctly, "it is not that 'government' exists first and technologies are developed in order to achieve its goals, but rather the opposite: technologies present themselves as potent sites for introducing 'economy' or 'administration' into everyday life" (Braun 2010). The fieldwork methods explained in this chapter ascertained

empirical evidence about the production of neoliberal environments through such innovations in governance.

I contend that these neoliberal environments are not merely produced from the application of neoliberal logics and policies—they are not renderings of an environment that existed before neoliberalization—but instead that variegated patterns that we may witness as neoliberal natures are deeply tied to racial formations and emerge from local contexts reflecting global histories of colonialism, capitalism, and, moreover, resistance to these forces. Against an instrumentalist conception of neoliberalism as a set of logics and practices, this fieldwork was designed from an a priori position that neoliberal environments are emergent. As such, these methods were developed to query the growing institutionalization of community-based watershed and river advocacy groups in the governance of surface waters and riparian environments in the U.S. and consider the racial politics associated with this neoliberal transformation.

Embarking from this position on the productive interference operating between genealogy and fieldwork, the qualitative research conducted for this dissertation was organized around three practical questions designed to better understand contemporary water governance in the U.S. through a case study limited to Georgia's Altamaha River Basin. This fieldwork was intended to elicit useful knowledge for the purpose of diminishing racial discrimination persisting in and reproduced through the stark and salient whiteness of mainstream river and watershed organizations.

First, and most broadly, I set out to do fieldwork in order to ask: **how locally-led river and watershed groups function in conjunction with government agencies to manage and maintain flows of surface waters through riparian environments**? This innovation in

governance was intended to address scalar complexities of surface water governance but I explored this question with attention to racial disparities that it sustains. Using this question, I employed qualitative methods through participatory research with river and watershed organizations to identify specific strategies, processes, and mechanisms that integrate the efforts of these non-governmental organizations with the operation of regulatory laws and agencies addressed to rivers and watersheds.

The second research question addresses the lack minority representation in these organizations in order to understand how more racial minorities could be involved: **What are the barriers to fostering greater diversity and a more inclusive river and watershed governance community?** Preliminary research established that the lack of minority representation was a major concern for mainstream river and watershed conservation organizations, and extensive fieldwork has shown that less than 2% of participants in main stream river and watershed groups are minorities despite the fact that African-Americans compose 40% of the Altamaha's population. Building on geographical research on race and nature as well as environmental justice scholarship, I began from a position that such a profound lack of minority representation in this form of environmental governance tends to exacerbate existing environmental inequalities in the Altamaha's racially differentiated landscape.

A third research question organizing this project asks **what effective strategies have people of color used to address the apparent biases in the increasingly integrative modes of water governance?** The South River Watershed Alliance (SRWA) is a community-based advocacy group in the northwest-most headwaters of the basin. The upper South River watershed coincides with one of the largest highly segregated African-American suburban areas in the U.S.. SRWA is the only river/watershed advocacy organization in the Altamaha Basin led by people of

color, and the majority of its members are African-American. While 40% people living in the Altamaha Basin are African-American, my observations of thousands of people at more than sixty events demonstrated that fewer than 2% of participants at events besides those organized by SRWA were not white. This third research question is aimed at elucidating strategies and differences that distinguish SRWA from mainstream river and watershed organizations elsewhere in this basin.

To answer these research questions I combined archival research on water governance and a genealogy of the Altamaha with qualitative data collected through interviews and participant observation over the course of four years. Between January 2012 and June 2016, I collected qualitative data about the role of NGOs in surface water governance and the conservation of riparian environments. I used a combination of semi-structured interviews, participant observations, and broader ethnographic observations to understand not only the practices and strategies of these organizations and the rationales for political engagement held by leaders and participants, but also to understand the institutional culture at work among and fostered by river and watershed advocates and activists. Table 3.1 summarizes the initiatives and forms of governance that I studied with the four organizations with which I conducted the majority of my fieldwork.

I went into the field to study the community of people who work to protect, conserve, or restore the watersheds and rivers in the Altamaha Basin. Drawing on connections and affiliations with members of this community stemming from my own involvement in Georgia river conservation beginning in 1999, the data I collected was elicited through the cultivation of deep relationships and political coalitions with environmental practitioners. My research methods are framed in an engaged ethnography paradigm, through which I was able to establish trust and a

Table 3.1 Initiatives and Governance of Primary Organizations

Organization	Initiatives	Governance
Upper Oconee Watershed Network	Citizen Science Monitoring Community Meetings Oconee Rivers Water Trail Emergency Response Public Information and Comment	Municipal Planning Municipal Management State Permit Enforcement State Monitoring Federal Permit Enforcement
South River Watershed Alliance	Environmental Justice Workshop Community Meetings New Paddler Recreational Outings Toxic Tours River Cane Restoration Public Information and Comment	Municipal Planning Municipal Management State Permit Enforcement State Park Administration National Park Administration Federal Permit Enforcement Federal Consent Decree
Altamaha Riverkeeper	Environmental Monitoring Community Meetings Recreational Outings Public Information and Comment	Municipal Planning Municipal Management State Permit Enforcement Conservation Areas Federal Permit Enforcement
Georgia River Network	Hidden Gems Recreational Outings Paddle Georgia Nonprofit Advisory Meetings Statewide Water Trail Planning Statewide Advocacy Coordination Public Information and Comment Policy Development and Lobbying	Local Ordinance Advocacy Regional Water Planning State Permit Enforcement State Water Supply Planning State Emergency Response Conservation Areas Federal Permit Enforcement

very strong rapport with numerous key leaders. My familiarity with the organizations and community of conservationists allowed for wide-ranging and detailed discussions of the river and watershed conservation political landscape dating back to the mid-1990s.

By working intensively and collecting qualitative data with numerous organizations, I created a deep and complex archive of how community-based organizations have become integrated with the environmental governance of surface waters and riparian environments in Georgia's Altamaha Basin. Consolidating long-standing relations through intensive fieldwork allowed me to elicit sustained, thoughtful, and often somewhat uncomfortable discussions about race, particularly the lack of racial diversity in mainstream conservation groups, and to generate

frank and candid conversations introducing the concept of whiteness as a framework for considering racial exclusions in the absence of intentional discrimination. Whiteness, then, and critical race theory more broadly, were not only theoretical tools for designing the project and analyzing data, but introducing these theories into action and discussion in the field put them in play, so to speak, as entities to engage with in the field.

The largest share of the qualitative data analyzed for this dissertation was collected through participatory research with four primary river and watershed organizations in the Altamaha Basin. Two of these organizations work at the local-watershed scale in the headwaters of the Altamaha: the Upper Oconee Watershed Network, based in Athens, Georgia, and the South River Watershed Alliance (SRWA), based in south DeKalb County in metro Atlanta, Georgia. A third organization works at the scale of the entire river basin: the Altamaha Riverkeeper, based in Darien near the mouth of the Altamaha on the Atlantic coast. A fourth organization functions at the statewide level to facilitate the work of local river and watershed groups: the Georgia River Network. In four years of fieldwork, I attended 68 meetings and events held by these organizations. I interviewed leaders, board members, volunteers, interns, and participants involved in each of these organizations. I also participated as a volunteer and activist with each of these organizations. As a participant or organizer in events and activities conducted by these groups, I would write ethnographic field notes before, during, and after each of my engagements. These field notes document details about the rationales, strategies, discourses, and practices involved in this form of community organizing, but they also contain extensive reflections on my own positionality, including my race, gender, and role as scholar-activist.

In addition to intensive fieldwork with these four primary organizations, I interviewed members of the Georgia River Survey, an organization I co-founded in 2003, which conducted ecological surveys of the navigable portion of seven major rivers in Georgia over six years. These interviews helped me to consider the fieldwork involved in this research in terms of my prior history in Georgia's river conservation movement, and helped analyze some of the views and understandings I had gleaned prior to developing this research project from the empirical observation I was conducting as a scholar. I also interviewed directors of the Fall Line South Field Institute, a field school for adolescents for which I was an instructor on a ten-day environmental education course on the Altamaha River in 2014. Finally, I was head of curriculum and teaching for two SRWA land/water conservation courses offered to teenagers in south DeKalb County in June and July of 2016 as part of a National Wildlife Foundation Five Star Urban Waters ecological restoration grant, which funded the restoration of rivercane on the banks of the upper South River near Panola Mountain State Park and Arabia Mountain National Heritage Area.

I also collected less robust but significant qualitative data about numerous organizations associated with groups or initiatives for river advocacy in the basin. Chief among these were the Georgia Water Coalition, a state-wide organization coordinating a lobby on state policy; American Rivers and the River Network, two national organizations that facilitate national policy-making and coordination of river advocacy; and the Waterkeeper Alliance, an international alliance of water-based stewardship organizations led by Robert Kennedy, Jr., which deploy the Hudson River model of locally-based grassroots membership organizations litigating on the basis of environmental laws like the Clean Water Act to compel the application of federal law by state regulatory agencies. While not directly active in the Altamaha Basin, a

number of organizations working in adjacent watersheds also provided contextual and comparative insights that helped guide my fieldwork with the four primary organizations and sharpen my analysis of that fieldwork. Particularly I was able to collect important information from interviews with and observations made about the Satilla Riverkeeper, the Flint Riverkeeper, the Ogeechee Riverkeeper, the Chattahoochee Riverkeeper, the Coosa River Basin Initiative, and the Savannah Riverkeeper. Conversations with members of these nonprofits helped to better understand what was generalizable and what was more unique about the efforts of organizations in the Altamaha Basin. I also travelled to two national river conservation meetings, and extensive field notes taken at these meetings further helped to understand the particularities of Altamaha based conservation and how it fits into a coordinated national movement.

Table 3.2 breaks down my extended engagement with the river and watershed conservation community over four years into discreet moments of data collection, and while this quantization attenuates the breadth of ethnographic engagement, it gives a sense of the robust empirical archive I generated through this research project. While I have completed analysis for the three primary research questions outlined above, there is certainly room to develop further analysis and more contributions from this data set. Beyond the ethnographic notes I took through my research, my method included two specific data collection tools: in-depth interviews and participant observation.

I have analyzed 128 in-depth interviews with 71 different individuals. In-depth interviews were typically an hour in length. The interviews catalogued in this table were “semi-structured” in the sense that I would prepare a tailored list of questions for each interview, allowing me to impose some structure but also let the conversations run their course. I conducted most of my interviews (80%) with leaders and environmental professionals, including principal organizers,

Table 3.2 Summary of Interviews and Participant Observation

Data Tool	Category	Number	Individuals	Hours
In-depth Interviews	Leaders	102	49	177
	Volunteers	26	22	28
	Total	128	71	205
Participant Observation	Organizational Meetings	18	97	177
	Public Meetings	10	583	33
	Conferences	8	1520	302
	River Outings	18	1266	627
	Monitoring Events	14	640	38
	Total	68	4106	1177

monitoring trainers, board members, lawyers, scientists, educators, and policy experts. I also conducted formal interviews with a smaller group of volunteers and occasional participants, 21 individuals or about 20%, focused on the views, beliefs, and impressions of these relative newcomers or visitors to the community. Data collected in this form totals to more than 193 hours of in-depth discussion dedicated to answering my research questions.

Roughly 45 more brief and less structured interviews, usually less than 20 minutes in length, were also conducted. Instead, these data have been catalogued for analysis with the second tool I used to collect data: extensive field notes in the form of participant observation. Before and after an event, I would write detailed notes cataloguing everything I could glean about who organized it, their goals and strategies. During events I took detailed notes, not only about the content of a given meeting conference outing or monitoring event, but also specifically identifying patterns in how people conducted themselves, common ways of talking about issues, what tensions were at play among organizers, how participants responded and engaged in organized activities. With the guidance of my advisor and committee members' expertise in these methods, I collected a thorough and detailed empirical record of how people engage in this kind of water governance. In this manner, I logged more than 1067 hours of participant observation. I documented river and watershed events as social and political activities. From

committee meetings to public hearings, from watershed scale environmental justice conferences to international meetings of river and watershed advocacy groups, an estimated 4130 people made it into my field notes taken at 68 different events.

3.4 Governance

In addition to allowing me to trace some of the contours of riparian whiteness, my fieldwork provided detailed insights about several specific initiatives and governance processes related to rivers and watersheds in the Altamaha Basin from the perspective of community-based and grassroots organizing efforts. For the analysis provided in the following three chapters, I organized these initiatives and processes into three typological categories: 1) monitoring activities, advocacy, and government partnerships intended to induce or facilitate the application of environmental law by regulatory agencies; 2) recreational and environmental appreciation, awareness, or recruitment activities; and 3) activities directing the application of resources for conservation or restoration. Through interviews, attending public meetings, and participating in planning and strategy sessions, I documented hundreds of hours in field notes and interviews about the specific initiatives and governance processes grouped in these categories.

Citizen science, or measurement and documentation of environmental health by community members, is a fairly recent and rapidly growing component of environmental governance in the U.S., particularly in the case of surface waters because of their extensive diffusion in landscapes (Buytaert et al 2016; Sirianni 2006). Each of the four primary organizations I studied engages in some form of water quality or aquatic and riparian environmental monitoring.

The most involved and detailed analysis of this kind of activity focused on qualitative data collected with the Upper Oconee Watershed Network (UOWN), whose quarterly stream

monitoring events and annual River Rendezvous have engaged thousands of volunteers in sampling hundreds of sites in the streams that feed into the North and Middle Oconee Rivers in the metropolitan area of Athens, Georgia. Before designing this research project, I participated in UOWN monitoring as a volunteer on a number of occasions between 2003 and 2010, and was therefore equipped with considerable knowledge of the protocols and practices of this activity before beginning fieldwork. I attended more than a dozen quarterly sampling events and two of the annual events in order to take field notes in the form of participant observation and brief interviews with volunteers who participate in monitoring but otherwise have little involvement with this advocacy organization. In interviews conducted with board members and leaders of UOWN, part of our discussions focused on the practices of monitoring, how they play out in governance, and debates had over two decades about best practices.

In addition to UOWN monitoring, I also analyzed fieldwork on this type of activity through Adopt-A-Stream, a program of Georgia's Environmental Protection Division of the Department of Natural Resources. The program began in 1996 and boasts more than 10,000 volunteers and over a thousand sites. While this form of citizen science monitoring is similar to those conducted by UOWN, there are also a number of important distinctions, which I worked through in an iterative process of fieldwork and analysis. The Adopt-A-Stream program provided me the opportunity to observe advocates training to be "Quality Assured/Quality Controlled" citizen scientists. I considered more limited fieldwork on the monitoring activities of other organizations in light of this focus on UOWN's monitoring.

Whether implicit or explicit, these monitoring activities parallel a broader set of activities each river or watershed organization conducts. Much of the work that river and conservation groups do is instrumental to achieve the application of environmental law, and often these efforts

are understood in the context of neoliberal deregulation of regulatory agencies. Towards the end of the period of fieldwork analyzed for this dissertation, I was involved in a small group of UOWN volunteers responding to numerous sewage overflows in Oconee County. These sampling outings were used to pressure the state Environmental Protection Division to sanction the municipal government for oversights in its wastewater management and also to initiate dialogue between the Watkinsville and Oconee County governments and concerned citizens. Ultimately, a new community-based organization focusing on Oconee was established as a result of this outreach and advocacy.

Qualitative data about monitoring activities and observing the nascence of a new advocacy group provided insights into the function and performance of the National Pollutant Discharge Elimination System (NPDES), one of the most widely applied regulatory instruments of surface water governance instituted by the Clean Water Act in 1972. The NPDES permit program is authorized to state governments by the EPA and provides regulatory guidelines for permitting and enforcement of point sources of pollutants to waters of the U.S. (EPA https://www.epa.gov/npdes). Municipal wastewater and the effluent from utilities and industries are permitted and sanctioned by state environmental regulatory agencies in a process established by the federal regulatory agency. Diminished funding for state regulatory agencies means that corporate entities operating in violation of federal NPDES permits frequently remain unmonitored and unsanctioned. The model of citizen science and monitoring conducted by each of the primary organizations that I have studied stems from the widely held view that community-based groups are required to "watch-dog" the state regulatory agencies and precipitate the application and enforcement of state law (Cohen 2012; Conrad and Hilchey 2011;

Harbert and Blackburn 2016; Little et al 2015). Moreover, these organizations participate in public comment periods that are required to issue or renew NPDES permits.

Each of the four primary organizations that I conducted fieldwork with place a very high priority on "getting people out on the river," as several interviewees put it. A wide range of practices intended to "reconnect" people with watersheds is central to all the organizations and activists with whom I conducted fieldwork. A great number of the events where I conducted participant observation and interviews with initiate members of the river and watershed advocacy community fall into this category. In particular, I participated as a volunteer for the Georgia River Network on the 2012 Paddle Georgia week-long canoe and kayak trip during which about 300 river enthusiasts and advocates paddled more than 100 miles of the Altamaha River, camping together on high school campuses and parks along the way. Paddle Georgia has been recognized nationally as one of the largest and longest standing of such recreational events administered by environmental organizations advocating for rivers and watersheds. During the 2012 event, I took extensive field notes about the relationships formed between participants and the kinds of conservation discourse they engaged with as they paddled through some of the most celebrated riparian environments in the Southeast. I also attended lectures and activities held each evening to entertain and inform participants about the natural history and environmental degradations pertaining to the stretches of river they were traveling. To supplement the data collected on Paddle Georgia in 2012, I also attended the 2014 Paddle Georgia as a participant instead of as a volunteer, which afforded me the opportunity to paddle each day instead of attending to organizational matters at camp while participants paddled. While that year's trip was on the Flint River, outside the Altamaha Basin, I was able to corroborate and supplement field notes from the Altamaha trip by taking further observations and "revisiting" this form of river

advocacy and the viscous assembling of affect shaping the community of Paddle Georgia participants. These weeks spent with Paddle Georgia organizers and participants generated hundreds of pages of field focused minutely on the comportments, accoutrements, and social performances of the river goers, the analysis of which underlies Chapter 5 on riparian whiteness.

I also conducted fieldwork observing and interviewing participants on shorter "day trips" organized by GRN under a project called "Hidden Gems." These paddle trips were co-organized by UOWN, the Altamaha Riverkeeper, SRWA, and a recently founded organization called the Yellow River Conservation Organization. These collaborative outings not only provided more insight into the way that organizers use recreational outings, but also how the statewide organization works with local organizations. Additionally, this kind of activity is supported by GRN's focus on establishing water trails in communities throughout the state through collaborative governance efforts between municipalities and community-based river and watershed groups. Georgia is home to the nation's first officially designated water trail, basically access points for non-motorized watercraft on rivers, and it is leading nationally in a Presidential initiative of the Obama administration to develop more water trails across the country.

A considerable portion of my fieldwork with the South River Watershed Alliance (SRWA) has been conducted on regular river outings this group has organized as part of its efforts to raise awareness and restore the ecological health of this urban river, which allowed me to see this form of organizing independent from the mainstream groups. On nearly a dozen occasions, I participated in these events as a safety boater, either in the lead of a flotilla or at the rear, or as an educational speaker giving a talk on the riverside about the ecological communities we were traveling through or about environmental degradations, depending on the needs of the organizers. I also conducted fieldwork on a toxic tour of South River headwaters in East Point,

Atlanta, and participated in "where the water goes" tours of the Altamaha. As with citizen monitoring, many of conversations I had in interviews with leaders and organizers in these organizations focused on this recreational and outreach component of their work, and my analysis tacked back and forth between observation, analysis, and explicit discussion of preliminary analysis in interviews subsequent to various recreational outings.

Much of my collaboration and fieldwork was conducted with organizations as they endeavored to attract and direct resources for conservation or restoration of riparian environments. SRWA works closely with the Arabia Mountain National Heritage Area, for example, and I have been part of the successful application and administration of a grant from the National Wildlife Foundation for the restoration of river cane populations along South River. This work also allowed me to see how Panola Mountain State Park and DNR employees have been intra-acting with SRWA. The efforts of ARK on the lower Altamaha are tied in with decades of work by The Nature Conservancy (TNC) to document and preserve the diverse, sensitive, and often rare ecological communities sustained by the flood-pulse dynamics of the lower reaches of this vast hydrologic system. My fieldwork with UOWN has allowed me to better understand the operations of municipal governments in Clarke and Oconee County, particularly how the Greenway Commission and the use of funds from "special purpose local option sales taxes" have been used to develop water trails. While the role of nonprofits in regulatory aspects of environmental governance is a key part of the analysis, the recruitment of funds to enact environmental projects is also very important to understanding confluences of race and nature in the Altamaha Basin.

3.5 Interference and Position

The robust data set outlined in this methods chapter allowed me to answer my research questions about the confluences of race and nature in the Altamaha River Basin. Genealogical work on the Altamaha not as an environmental "thing," not even as a set of relationally connected "things" as interacting processes, provides the methodological basis for an analysis of the river system as a technology of governance. Fieldwork with organizations provided data for an analysis of the proliferation of river and watershed groups beginning in the 1990s, which coincided with a formal shift in governance at the EPA, encouraging the involvement of stakeholders through an integrated Watershed Management Approach, and including support for citizen science and targeted watershed grants for local organizations. This institutional shift was coupled with the propagation of a successful model of river and watershed environmentalism through Clean Water Act litigation resulting in the explosive growth of such organizations in the past 25 years. Understanding this kind of community-based involvement in environmental governance alongside a performative materialist concern for the river as a technology provides a methodological basis for understanding imbrications of power in assemblages of Race-Nature-State, which can be understood by diagramming evolving apparatuses of territory. Finally, these methods provide the basis for an analysis of the exposure of people of color to toxic flows in this fluvial system, in an analysis, unlike most environmental justice and political ecological scholarship, attends to the deep histories of territory and the materialities of race that produce geographies of slow violence.

While no single component of these methods is new, I argue that I have combined genealogy and fieldwork with the practice of deconstruction to innovative methodological ends. The iterative traffic between genealogy and fieldwork was conducted precisely to avoid an

environmental history of the Altamaha. Instead, I have thought of this alternating method of research as a practice of *diffraction* intended to disclose confluences of race and nature through the *productive interference* occasioned by my research, yielding, in the chapters that follow, a diagram of the territorial assemblage of race-nature-state with a river running through it (Barad 2014, Harraway 1992, Sandoval 2000, Ceasare 2002). Employing such a diffractive method, I continue to hope, achieves what Foucault (1997) has called "counter-history" or "history of the present"—a genealogy of how ways of seeing, investing in, and regulating the Altamaha, and the beautiful yet violent riparian human-environments it sustains, have been naturalized such that the question of what riparian has got to do with race presents almost as preposterous. This methodology is conceived in order to get at a geographical understanding of ways that environmental knowledge and practice, confluences of race and nature, produce not merely racialized landscapes, but indeed effect the materiality of race in and through riparian bodies articulated in a fluvial space of connection.

This digression on method contends that diffracting genealogical analysis of environmental knowledge and practices to do with the Altamaha through fieldwork attuned to the viscosities of race as affects and "intra-actions" elicits an geography of race-nature-state to help better understand and confront environmental racism. The productive interference of these methods resolves as a radically materialist account of race and nature that diagrams how human bodies are assembled *with* environments through apparatuses that produce territory and enable forms of contemporary governance that abandon some lives to violence while fostering the health of other populations.

In recent decades, many qualitative researchers have depended on the feminist concept of positionality to actively engage the reality of interviewing and observing people in the context of

racial, economic, and gender differences, among others (England 1994; Rose 1997; Nagar 2014; Gibson-Graham 2006). I am a white man in a discipline deeply marked by the racist and sexist conduct of white men, and continuing forms of systematic discrimination and privilege have supported my ability to conduct this research. Moreover, since 1995, I have been canoeing, birding, botanizing, and working as an advocate or activist along the rivers that flow out into the Altamaha Sound between Sapelo and St. Simons Islands. In short, I have connections to the people I have studied, and this connectedness bears affects of white masculinity. My body and its comportment, my manner of talking and sensibilities, have long been disciplined to please and foster productive relationships with the community of people working to protect, promote, or restore rivers and watersheds in the Altamaha Basin. In addition to friendships and collaborative relationships with members of the river and watershed community that span two decades, my *position* as a qualitative researcher among these environmentalists was very advantageous in terms of access and trust.

As a white man employing feminist theory and methods and researching questions about social difference, I believe also that I was afforded more credibility, respect, and authority than a woman might have been granted, and on several occasions my field notes indicate a feeling that I was "one of the boys" or that participants or organizers treated me with deference or authority as a "smart graduate student." Throughout my fieldwork, I not only had the benefit of access but multiple forms of reassurance—invitations to present research, requests to give public talks, awards—that my work was appreciated and held in high esteem. Positionality, so to speak, matters, and my position has been privileged, but I want to conclude this essay on method with the argument that *positionality* is not enough, and while I have sometimes called my research *participatory*, that term is also and relatedly inadequate.

When I talked to people about race as a researcher, I talked to them as a white man, but as a white man with a particular awareness of race stemming from a childhood skipping between several small towns in the Southeast. The "country" in my voice, for example, and other accouterments of my southern upbringing, seemed to afford me capacities to assuage awkwardness and concerns when talking with people in the Southeast about race. I was frequently surprised to hear just how "country" my timbre and dialect sounded as I transcribed interviews with people who I remembered being concerned about alienating with discussions about race for research. The parallax of conducting, transcribing and analyzing an interview occasions moments to think through intensities, differential speeds, and breaks in between self and other, crossings that betray moments and zones of indiscernibility (Ceasare 2002). Instead of beginning with a determined map of identities as position, my qualitative method works out of and through a concern for the potentials of the interference produced in these crossings and disclosed in the practice of earth-writing (Cesare 2002)

For example, transcription occasioned me to think about the "ineluctable modalities" of masculinity and whiteness coded in my voice (Joyce 1993; Cesare 2002). I did not realize how profoundly I changed my own way of talking from one interview to the next. Even in individual interviews, an analysis of my own voice exhibits a discernible frequency in the rhetorical deployment of a South Georgia dialect in portions of interviews focused on race. Differential speeds and intensities of affect as identity interfere with the putative topics of discussion. In interviews with white people, in many instances, you can hear, even in my annunciation, a desire to assuage the metropolitan and institutional bias against the South that I feared would inspire defensiveness. You might hear the following in the place of "what do you think are the greatest barriers to fostering greater racial inclusion and diversity in this organization?"

> I mean, but, what is that, you know, hardly any black folks coming to events or meetings? I mean, of course nobody is sitting around saying 'we don't want black folks coming to our meeting.' It ain't that—you and I both know, it ain't that. But how come nobody can get more…You see what I'm saying, here? What's so hard about this inclusion and diversity everybody's talking about?

The differentials in the recordings of my voice are just subtle enough, I think, to not come off patronizing, maybe. Subtle perhaps in that I never really put my "country" on with conscious intention, but in the parallax of transcription and analysis these affects resound in a methodological "echo chamber" as productive interference. Much as Casarino's (2002) method of *philopoesis* which insists that "every beginning always is a wound, always takes place in the middle of things" (xvii), my method is bound to a similar "interferential ontology" such that the being of whiteness is always a becoming. The methods I employ suppose a diffraction gradient emerging when a white researcher asks "what is whiteness?"

There are instances in my field notes where I expressed a feeling that my whiteness had been a barrier to talking about race and racism with African Americans, but for the most part I was able to establish relationships and rapport with people that supported frank discussions of race even across color lines.

Scholarship on positionality helped me to think through and conduct fieldwork (Moser 2008; Mullings 1999; Cook and Crang 1995), but I would argue, not for the purpose of critique but to open a different methodological trajectory, that positionality "falters" much as social constructionism falters: positionality falls into the representationalist trap stemming from an "atomistic metaphysics that takes 'things' as ontologically basic entities," the core of what Barad (2003) attributes to the intellectual hegemony of Newtonian physics and Cartesian epistemology, reproducing the "represtationalist triadic structure of words, knowers, and things" (813). Barad employs an analysis of Neils Bohr's philosophy-physics to work out a performative, materialist

ontology of relation and phenomena. Theoretically, I have depended upon Barad's refusal of a material-discursive dualism, as explained in the previous chapter, but I think it is important to return to her elaboration in examining positionality as qualitative method. Barad's (2003) gloss of Bohr's account highlights how position:

> cannot be presumed to be a well-defined abstract concept, nor can it be presumed to be an inherent attribute of independently existing objects. Rather, 'position' only has meaning when a rigid apparatus with fixed parts is used (e.g., a ruler is nailed to a fixed table in the laboratory, thereby establishing a fixed frame of reference for specifying 'position'). And furthermore, any measurement of 'position' using this apparatus cannot be attributed to some abstract independently existin 'object' but rather is a property of the *phenomenon*—the inseparability of 'observed object' and 'agencies of observation' (814)

Positionality is provisional. As method, positionality functions like a temporary fix and tonic against a positivism that suggests that social research can be conducted without explicit awareness and concern about the power relations between researcher and subjects of qualitative research. The temporary fix offered by positionality tacitly affirms a notion that power relations are instantiated in such a way that research can transcend without necessarily becoming entangled with, much as the moniker of "participatory research" suggests that research is somehow sometimes *not* politically and ethically committed to certain arrangements of power, that research can be more or less entangled with the matter under study. So while my positionality as a qualitative researcher was a constant matter of concern, calculation, and commitment, it is an inadequate concept for navigating the politics of research, where politics refers to radical experimentation with the real and methods for observation and measurement of empirical reality are always already political matters and components of political materiality.

Interpersonal communication with African Americans for this research meant crossing the color line. My role in making these crossings involved the risk of being racist or doing the

work of racism, whether in people's opinion or in the professional and intellectual act of profiteering. Black people that I engaged through research risked opening their work and lives to academic analysis and representation that could be demeaning or detrimental to political movement. These crossings required frequent soundings of position and potentials for risk. Sometimes these were explicit and intentional discussions, but more often they were implicit nuances. As in interviews with white people, I can hear the subtle yet sustained contours of such soundings while crossing color lines in the audio files of my conversations with black people. While my voice gets southern in moments of tension, it's also more like the talk I heard in the kitchen than the talk I heard in the garage as a child. I can hear both a folksy sign of my growing up with African-Americans in the South and a kind of reassurance that I know how to be discreet and strategic when talking about the violence of Georgia's racially differentiated landscape. Listening to our conversations, I hope these records of my voice-in-crossings disclose an embodied and ethical commitment to the positional arrangements and dynamics of power occasioned by my research; I hope they do not only disclose a kind of skillful and situated capacity to induce candor despite positional tensions between race and power. Thinking about the position of the qualitative research in this way suggests that position is always in flux and relation, only ever stabilized in relation to politically charged and potentially colonizing moments of reading and representation. Just as Steacy et al (2016) argue that "discourse analysis cannot be confined to one moment in the research process," positionality too must be thought in terms of an "open-ended, iterative" component of fieldwork, where the passage of researcher and research across color lines feeds back in processes of geographic analysis whereby earth-writing is bound up with an "emergent political space" (172).

CHAPTER 4: FLUVIAL TECHNOLOGY

4.1 Seeing the State with a River

Lefebvre (2009) considers the problem of how "the State binds itself to space through a complex and changing relation that has passed through certain critical points" (224). While considerable theoretical and empirical investigation in geography examines the production of space and scale (e.g., Herod and Wright 2008; Swyngedouw and Heynen 2003), less focused attention has been attuned to territory (Elden 2015). As argued in Chapter 2, feminist performative materiality suggests a means for a political ecology to examine the production of space and environments bound up with the state through the materialization of territory. As opposed to the environmental history of a natural system, the Altamaha examined from this perspective of political matter can be queried and understood as *fluvial technology*. Writing the Altamaha as fluvial technology denaturalizes the river system, but insists on its material, sensuous existence nonetheless. As fluvial technology, the Altamaha can be assayed as a "more-than-human" body, a fluvial space differentially connected to and connecting through technologies or apparatuses of territorial assemblage (Braun 2005).

The role of the Altamaha in assembling territory in the places now known as Georgia has been profound. Through a genealogy of the Altamaha as a technology of governance whose material presence is performatively bound up with its role as fluvial technology, this chapter traces assemblages of race-nature-state from early stages of European colonial settlement, accumulation, and dispossession to contemporary neoliberal environments. Lefebvre's (2009) discussion of the relationship between state territory and the production of space includes the

ominous (or hopeful) aphorism: "born in and with a space, the state may also perish with it" (224). This chapter presents a diagram of the territorial assemblage of race-nature-state by diffracting the problem of territory and the binding of state with space through the Altamaha, arguing that the production of spaces of capitalism, and of environmental justice, are tied to the fluvial space of the Altamaha's riparian connections.

To diagram such an assemblage and the role of the Altamaha as fluvial technology, we must first reject a facile notion of territory as the spatial extent of sovereign power (Agnew 2005). This chapter works through the productive interference of genealogy and fieldwork to diagram the territory of Georgia—a colonial, federal, racial, but also hydraulic state—borne of and with the materialization of riparian environments and hydrologic flows. This diagram contributes to geographical understandings of the racial formation of watershed subjects and environmental racism. I explore the Altamaha as fluvial technology required to establish the territory of Georgia, first as a British colony, then as a territory of the U.S., exploring how these becomings of space as territory are tied to a series of crucial and dynamic relationships to Altamaha. I demonstrate how the river has been a fundamental site of the production of space and development of territory under different periods and regimes since the earliest days of European settlement.

Put differently, this chapter sets about a variation on the problem of "how to see a river," as an ecologist I interviewed put it when talking about the complexities of environmental governance and the "ineluctable modality of hydrologically-driven ecological relations" in the Altamaha Basin. The method of diffraction and productive interference combining genealogy and fieldwork provides an empirical mode of *seeing* the river, not only and above all as a biophysical entity supporting a bounty of ecological, social, and economic relations, about which

we may produce environmental knowledge for regulation and conservation. Instead, this chapter works to *see* and *write* the river as fluvial technology enrolled in the production of territory, the formation of subjects, and the materialization of environments with race. Seeing the state with a river, in this fashion, does not promise to disclose a final, singular, or total view of the state, of territory, nor of the Altamaha. It presents a limited and particular view, one I hope can be helpful in confronting environmental racism and the racial state more broadly.

Section 4.2 examines the Altamaha's role in colonial processes of territorial development in an apparatus establishing a colonial frontier. This analysis of the Altamaha as fluvial technology examines the founding of Georgia as a British colony in the "disputed land" between competing British and Spanish claims to the southeastern Atlantic regions of North America. In section 4.3, I examine the role of natural history and surveying in European processes of assembling colonial territories. In section 4.4, I turn to contemporary environmental governance of the Altamaha to present an unnatural history of contemporary environmental governance of the Altamaha to establish the argument that watershed governance today is part of a racial formation through an "environmentality" coupling watershed subjects and environmental racism (Agrawal 2005; Pulido 2016; Kurtz 2009). In Chapter 5, I return to consider how some of these moments in territorial assemblage of the Altamaha as fluvial technology in different periods continue to have a role in the ordering of the whiteness of environmental governance in the colonial present.

4.2 Bordering the Colony, Managing the Frontier

Descendants of indigenous peoples who first contacted Europeans on the banks of the Ocmulgee and Oconee Rivers in 1540, today form the Muscogee Nation, based in Oklahoma. The appellation Muscogee stems from an Algonquin word meaning "people of the swampy

ground," a term used by European colonizers to negotiate with and conceptualize a diverse group of indigenous peoples whose societies functioned through territorial relations of chiefdoms organized as interconnected cities along rivers and streams in the southeastern region of North America (Saunt 1999: 14; Ethridge 2003).

In this section I examine the fluvial technology of the Altamaha as boundary in global assemblages of bodily difference occasioned by the colonial acquisition of Muscogee territories and dispossession of what came to be known as the Creek Nation (Sweet 2005). This study approaches the Altamaha as a fluvial technology to establish a colonial boundary and frontier, demarcating the spatial extent of sovereign power as territory, in terms of the traditional problem of territory (Agnew 2005; Elden 2014). The claim to the territory eventually settled as Georgia was bound up in a long-standing global geopolitical conflict sometimes referred to as the Second Hundred Years War, beginning with the Nine Years War, including four distinct periods of intercolonial conflict, and coming to an end in the early 19th century after the French and American Revolutions with the conclusion of the Napoleonic Wars (Sweet 2005, Juricek 2010). Barrier islands at the mouth of the Altamaha were the northern extent of Spain's American mission system in the 17th century, and in 1680 British agents fomented and aided a rebellion among the Guale leading to Spain abandoning its northern most settlements in North America. At the turn of the 18th century, the Altamaha ran through the heart of the "debatable land," a legal space of overlapping English and Spanish claims to North American territories (DeVorsey 1970).

Three hundred years ago, the flood pulses of the Altamaha sustained this zone of indeterminacy where European powers competed to colonize and appropriate the territories of a multi-ethnic and linguistically diverse group of indigenous peoples who, through periods of

displacement instigating profound social and political transformations, came to be known as the Creek and Seminole Nations (Hahn 2004). Throughout the 18th century, the Altamaha's flood pulses became increasingly central to British territory making, providing an instrument for bordering and settling colonial territory, but also a vehicle and mechanism for establishing and managing Britain's southern frontier in North America. The great "pellucid flood" of the Altamaha provided a putatively fixed "natural" border for the early colony, but its cyclical floods also provided an indeterminate, swampy buffer that was both useful and problematic for deterring threats to colonial territory and disputing contested territorial claims.

Before founding and then settling Georgia as a colony, England had already claimed the areas of land along the Atlantic Ocean extending well into the Florida peninsula and even including the Spanish settlements at St. Augustine in the revised Carolina colony charter of 1665. Though the province of Georgia was officially chartered in 1732, the process of bringing this territory into 'control' was initiated some fifteen years prior, and continued to be actively developed and resisted into the early 19th century. In the fifteen years between the Yamasee War and the charter, there were three separate proposals to establish a buffer colony in the so-called "Debatable Land" between the southernmost English settlement of Charles Town and the Spanish city of St. Augustine. In the heart of this "debatable land" lay what proponents referred to as the "Altamaha territory," highly valued as a geopolitical site because the river would command access and control well into the interior of the unsettled region, and because the mouth of the river was well-protected by the barrier islands and network of channels that would make invasion from the sea difficult.

In 1721, the British began to build Fort King George at the mouth of the Altamaha. But, by 1732 there was still very little British settlement south of Charles Town (Ramsey 2003).

While much attention is given to James Oglethorpe's desire to establish a new colony for unemployed ex-convicts in Scottish urban centers, the rationale for establishing another colony stemmed most powerfully from the aftershocks of the Yamasee War in 1715, which established indigenous political coalitions in the space between British and Spanish claims as a genuine threat to the profitable Carolina plantations. Carolina planters lobbied for a buffer to Spanish and indigenous threats to their profitable plantations The Altamaha was central to legal and social institutions of colonial rule and indigenous resistance during this period of profound territorial transformation.

As an instance of the local universal of colonization's global particulars (DeLanda 2002), the Georgia charter was issued during an interstice between the conclusion of Queen Anne's War and King George's War, in which the British were able to fend off Spanish attacks from its Caribbean territories with the southernmost fort of the newly established Georgia territory (Sweet 2005). But, prior to the construction of this fort and issuing the charter for the province, the Carolinians had also become increasingly concerned with Muscogee peoples known to the settlers as the Creek Confederacy. The changing territorial assemblages in what became the colony and then U.S. state of Georgia were intimately tied to bound up with what Hahn (2004) calls the "invention of the Creek Nation" (Hahn 2004). Using the Altamaha as a boundary and progressively settling this claim up the river system, settlers slowly displaced Muscogee peoples and territorial relationships to the Altamaha Basin. This dilated process of resistance, negotiation, and participation in the geopolitics of European colonialism produced profound transformations in Creek social, economic, and political life (Saunt 1999; Ethridge 2003). In this way, the dynamics of territorial assemblage involved multiple social systems and political confrontations including indigenous ways of being in relation to the Altamaha and its flood

pulses. Creek and Seminole territorial assemblages were not static before contact and they changed rapidly during more than a century of struggle and resistance to European colonialization:

> Some Creek leaders began making innovative territorial claims of their own after the establishment of the colony of Georgia in 1733. By claiming absolute authority over recently conquered territory, the Creeks themselves participated in the invention of a territory-based Creek Nation, as distinguished from the small, traditional kinship groups that lived on the three rivers in Creek country. (8)

Thinking through the Altamaha as fluvial technology in rapidly changing territorial assemblages helps to realize the error of thinking about British colonial acquisition and displacement of the "Creek Nation" in terms of "negotiating for territory," diplomatic bargaining between two "societies" to "create a mutually beneficial relationship centering on trade and defense" (Sweet 2005). Indigenous lives and social formations were in processes of drastic transition as spaces of colonial contact proliferated movements of people and crises of territorialization and deterritorialization. These crises were tied to the indeterminacy of the zone between British and Spanish colonial territorial systems, the displacements of people from this zone, and the re-organization of Muscogee societies in the fluvial space of the Altamaha's riparian connections.

> The South's Imperial Era, then, did not witness the rise of a monolithic Creek Confederacy. But it saw the invention of an entirely new, ambiguous political concept—the territory-based Creek Nation—which both Creeks and Europeans worked to define and control. (8)

These re-organizations also facilitated the ethnogenesis of the Seminole, an indigenous society comprised of runaway slaves and displaced indigenous peoples, whose consolidation and resistance to colonial pressures and U.S. expansion continued to shape federal politics and territorial disputes well into the 19th century. While Creek and Seminole life changed drastically in this period, the fluvial technologies of Muscogee chiefdoms remained important and many of

these innovations in hydrosocial relations reterritorialized in the Altamaha Basin during the long 18th century.

Rather than seeing the establishment of the province of Georgia in instrumentalist terms that unify the clamorous instigations that set these territorializing processes in motion, it is more realistic to recognize the multiple and capillaried political forces that animated the process. The establishment of the thirteenth colony along the Atlantic Coast of North America came on the heels of one of the bloodiest battles, relative to population size, in the history of British colonization in North America, the Yamasee War, 1715-1717 (Sweet 2005). More than 400 colonists were killed in this war, which developed out of trading disputes in the Carolina Colony and saw the confederation of more than fourteen indigenous chiefdoms or nations (see Hahn 2005), spanning the entire region south of the colony up to the claimed territories of France and Spain, from the Catawbas in the present-day Carolinas to the Choctaws in what is now Mississippi. The coalition was potent: in the two years of conflict, the coalition destroyed most of South Carolina's plantation districts and, when the conflict ended, South Carolina's proprietary government was in such shambles that the Crown dissolved the corporation and began administering its Carolina territory as a Royal Colony with a state-appointed governor (Ramsey 2003).

More than changing the Crown's administrative and juridical relationship with its existing settlements in Carolina territory, from proprietary (operating under legal relationship similar to that of a fiefdom) to more direct royal administrative control, the war altered the geopolitics of the South in two ways that linked with the Altamaha (Coleman 1972; Sweet 2005; Ramsey 2003). First, the alignment of so many nations against South Carolina resulted in socio-economic displacements, large migrations, and lasting confederations of indigenous peoples in

the unsettled (by Europeans) regions south of the Savannah River, many of whom relocated into the productive environments of the Altamaha Basin. Second, South Carolinians had sought to weaken the northern regions of Spanish Florida territory in the decade prior to the Yamasee War. In these efforts, settlers armed and commissioned hundreds of Muscogee warriors to destroy the mission system north of St. Augustine and capture slaves for the Carolina planters. These invasions and mass murder of Guale associated with the missions effectively depopulated much of the area known as the "disputed land" in the coastal lowland areas near the mouth of the Altamaha (Sweet 2005).

Following the Yamasee War, the weakened settlements of Carolina were in need of even more protection should Spain decide to retaliate for the attacks (Ramsey 2003). One result of the protracted attempt to consolidate territory in the province of Georgia was the reorganization of social, economic, and bureaucratic relations between the "adventurers" in the Carolinas, their indigenous trading partners, and the Crown whose authority granted these economic relationships some degree of geopolitical security, but also risk, in the context of global war for empire (Juricek 2010). But at the same time, these attempts to create a military buffer to economic interests in the Carolina settlements also instigated a new set of alliances and political relations for Muscogee peoples living in the spaces between French, Spanish, and British settlements in their New World. In the debatable land of the Altamaha Basin, shifting indigenous alliances and social reorganizations played out in relation to the river and the environments sustained by its flood pulses. The emergence and consolidation of the Creek and Seminole Nations took place in the contact zone between British and Spanish frontiers, as diverse indigenous societies resisted and responded to but also shaped a global geopolitical conflict for more than 100 years.

The 1732 Royal Charter for this territory, asserted Georgia as the area of land under sovereign control of Britain, powers and authorities delegated to a board of trustees who administered the province as a proprietary colony.

> whereas our provinces in North America, have been frequently ravaged by Indian enemies, more especially that of South-Carolina, which in the late War, by the neighboring savages, was laid waste with fire and sword and great numbers of English inhabitants, miserably massacred, and our loving subjects who now inhabit them, by reason of the smallness of their numbers, will in case of a new war, be exposed to the late calamities; inasmuch as their whole southern frontier continueth unsettled, and lieth open to the said savages (Royal Charter 1732)

At the same time, colonists involved with planning, promoting, and peopling (with Europeans) this claim were highly conscious of the problematic distance between this law—administered from London, disputed by France and Spain—and the space of its putative application, a region bounded by a frontier established with the Altamaha as fluvial technology:

> all those lands, countrys and territories, situate, lying and being in that part of South-Carolina, in America, which lies from the most northern part of a stream or river there, commonly called the Savannah, all along the sea coast to the southward, unto the most southern stream of a certain other great water or river called the Alatamaha, and westerly from the heads of the said rivers respectively, in direct lines to the south seas; and all that share, circuit and precinct of land, within the said boundaries, with the islands on the sea, lying opposite to the eastern coast of the said lands (Royal Charter 1732)

The indefinite "swampy ground" of the Altamaha's floodplain points to the further significance of this river system in the materialization of territory. Not only were all manner of social and economic contingencies implicated in the complicated processes of territorialization at work behind the juridical claim to territory, but the role of geographic knowledge and natural history of this river system were tied in as well. The economic and ecological productivity and

possibilities of this river system, to which the powerful threat of the Creek Nation was attributed, also made the territory desirable for its perceived *qualities*.

Traditional thought *of* the state entices us to understand British acquisition and accumulation by dispossession in terms of nearly instantaneous juridical capture. Understanding the law as an instrument of sovereign power, its application is imagined to take place over a neutral, inert expanse of earth—the *raum* or *terra nullius* (Thompson 1975; Agamben 2005). The land itself may be imbued with certain qualities—capacity for agricultural production, quantity of various resources, strategic military sites—but these qualities are seen to lie dormant in the earth itself as the pall of territory comes to rest over them. This juridical-sovereign conception of territorial *coming* is precisely not seen as a kind of *becoming*, wherein the land and its qualities are transformed themselves. Alternatively, in a thought of territory's becoming, not only are the qualities of the land rendered anew, but so too are the political entities—all manner of bodies, bodily practices, social and economic relations—imagined merely to direct or suffer these territorial movements. Because, in the statist view, territory simply comes to rest on a neutral and natural space of earth, it can only be questioned in terms of why it came, at whose behest, and whether it was legitimate. As Timothy Mitchell (1999) has argued,

> we must take seriously the elusiveness of the boundary between state and society, not as a problem of conceptual precision but as a clue to the nature of the phenomenon. Rather than hoping we can find a definition that will fix the state-society boundary (as a preliminary to demonstrating how the object on one side of it influences or is autonomous from what lies on the other), we need to examine the political processes through which the uncertain yet powerful distinction between state and society is produced" (77).

The British colonial state did not simply respond to the Yamasee War and conclusion of Queen Anne's War by reasserting its claim to territory south of the Carolina plantations and pragmatically implementing a strategy for controlling the "disputed land." Instead a convoluted

series of relations between economy, society, and the state amounted to these processes of territorialization that, in turn, amounted to a reframing of bodies, their capacities to affect one another, and the spaces of assemblage where these relations transpire, and again transform. In Georgia, until February, 1794, the U.S. confided to the governor the task of protecting the frontier against the Creeks who were then waging a spasmodic warfare in protest against the execution of certain Confederation treaties. In 1794 the U.S. took over Ft. Fidius on the Altamaha and began the building of Ft. St. Mary's on the river of that name. By the Colerain Treaty of 1796 the Creeks gave permission for the erection of forts on the Indian side of the Oconee-Altamaha and in the same year the U.S. built Ft. Wilkinson on the site of the later Milledgeville. This remained for several years the principal fortification on the Georgia frontier (Cotterill 1933: 336).

As indigenous territory, "debatable land," and a southern frontier for British colonies in North America, the swampy ground of the Altamaha Basin has been enrolled in a series of complex and dynamic relationships of people, politics, and place since Europeans first contacted native inhabitants of the region. Flood pulses of the Altamaha were matters of geopolitical significance beginning in the late 17th century and persisting into the 19th century. The flood pulses of the Altamaha maintain environmental relations that are highly valued by conservationists in the 21st century, but the historic flood pulses maintaining riverine swamps and tidal wetlands of the Altamaha lay at the heart of a century-long global struggle for territory between major European colonial powers until the 1763 Treaty of Paris (Saunt 1999). Just as the Altamaha's flood pulses sustain biodiverse bottomlands and a vast salt marsh estuary of global conservation significance today, the periodic inundations of the Altamaha's wide and swampy floodplain also sustained complex geopolitical relations as Spain and England competed to

dispossess indigenous peoples in southeastern North America through settler colonialism (Hahn 2004). These flood pulses of the Altamaha connected numerous sites for fostering economic and political relations with indigenous peoples, and into the 19th century these flood pulses functioned as crucial natural resources and distribution mechanisms for developing colonial rice and cotton plantation agriculture systems. Subsequent to the forced removals of Creek and Seminole peoples from the basin in the early 19th-century, the flood pulses of the Altamaha became increasingly central to the inland expansion of the U.S. territory of Georgia.

4.3 Surveying Riparian Territory, Assembling Global Knowledge

To the extent that the geographic knowledge that apprehended the Altamaha River system as boundary-making apparatus for the colony of Georgia to form a strategic buffer in a global conflict, we can see the social production of this natural feature as a configuration of global natures. But, moreover, as a site for the production of calculable space, the Altamaha became legible through a global system of colonial knowledge production of natural history. The practice of natural history was complicit and necessary to colonization. Natural historians depended on mercantile and military outposts to gain access to far-flung geographies, and these agents were called on to provide technological support to the imperial enterprises in return. Indigenous knowledge was appropriated and transliterated by naturalists into a globally-meaningful framework effectively deterritorializing these forms of knowledge. Assembled into a Linnaean global framework, this knowledge could then be used to expand territorial boundaries and produce the territory.

In the opening of William Bartram's *Travels* (1795), the esteemed naturalist from Pennsylvania describes crossing the Altamaha River near its mouth in 1773 into an "uninhabited wilderness" wherein he marked "the sudden transition from rich cultivated settlements, to high

pine forests, dark and grassy savannas" (39). Georgia—last of the original thirteen British colonies in North America—was established in 1732 as a buffer to Spanish and indigenous threats south of British settlements. In the original charter for the Georgia colony, the Altamaha River, to its headwaters, formed the southern and western boundary of this claim to territory, though this boundary remained problematic and contested into the early 19th century. Bartram's invocations of wilderness upon crossing the river near its mouth were tied up in the conception and practice of empire, and his work as a naturalist was an important component in that process of "thinking about, settling on, controlling land that you do not possess, that is distant, that is lived on and owned by others" (Said 1994, 7).

In highlighting the rich interplay between culture and imperialism, Said (1994) distinguishes these practices of knowing and narrating the territory from what is often imagined as a "simple act of accumulation" (9). Said's analysis in *Culture and Imperialism* points to the fact that territory is not simply taken and held; as many geographers have noted, territory is not simply given and exchanged, it is produced and performed in ongoing processes (Blomely 2002, 2003). This chapter proceeds by asking after how the Altamaha continues to be enrolled in such processes of territory-making under neoliberal governmentality today, particularly through an analysis of riparian whiteness that attends to the persistent role of colonial natures in the cultivation of the watershed self.

Bartram's *Travels* is a rich and inviting text from the 18th-century European literary tradition of natural history exploration travel writing, remarkable for a subtle and sometimes sly capacity to upend commonplace notions about colonial knowledge and indigenous lives. Early on and throughout the text, Bartram, an esteemed naturalist and one-time apprentice to Benjamin Franklin, presents himself as a "gentle flower hunter"—a name given to him by Seminole Mico

whose permissions granted him access to parts of their territory in the "debatable land" between British and Spanish claims in North America. *Travels* renders the spaces of colonial contact visible to the audiences that commissioned and patronized this kind of exploration.

Drawing on the work of Foucault and Said (1992), Mary-Louise Pratt (1992) identified an important trope in the production of natural knowledge in the colonial annexation and administration of new territories. Her work shows the wide-ranging pattern across a wealth of colonial contact narratives in which the production of natural history was portrayed, above all, as a passive, gentle enterprise. Colonial works of natural history exploration literature like Bartram's *Travels*, at pains to represent themselves as passive forms of observation, had a double meaning and capacity. On one hand, the tenuous hold of Europe's territorial claims to faraway lands was reassured by the demonstration that dizzyingly diverse flora, fauna, and other features of could be known, represented, catalogued, made legible, even calculable, and, in this sense, mastered, or made *productive*. On the other hand, such mastery fed a growing desire in late-18th-century cultural politics of expansion for a manner of justifying appropriation without the guilt of violent seizure. Mary Louise Pratt (1992) refers to such a legitimating vision of taking possession passively, through enterprises of observation and documentation, as a form of "anti-conquest" (1992).

Bartram's *Travels* (1996) assembled riparian environments of the Altamaha as fluvial technology using the global taxonomic enterprise of European natural history. In surveying the Altamaha Basin, Bartram contributed knowledge to the colonial project to claim and administer the territory even as his narrative includes explicit moral and political challenges to the dispossession of indigenous peoples this colonial project entailed. Environmental knowledge is thus part of imperial technologies, and the Altamaha fluvial technology is assembled as colonial

territory as it is taken up in circuits of knowledge. Other scholars have examined such assemblings. Greer (2008), for example, demonstrates that "practices and ideas of ornithology relied on the participations of First Nations and Metis peoples, whose knowledge and skills were instrumental to British naturalists," (88) and ornithological knowledge provided functional means toward greater expansion: "As naturalists brought information back from new lands, knowledge that had accumulated at the imperial centre was then reused by future voyagers to extend the boundaries of empire" (90). But colonial natural history practices such as ornithology *also* functioned "to reinforce British, upper- and middle-class, gender-specific white identities" in the recently annexed, and certainly contested, spaces of indigenous-settler contact. Greer explores how military officers were encouraged to "exert[] real imperial and masculine presence in the British colony through their sportsman and scientific practices," which were promoted as "rational" and "innocent" recreation (95). These activities added to the feeling of being grounded and still-masculine for often disoriented and quotidianly impotent agents on the edges of empire, but they "also provided tangible evidence of occupation and dominance" (97), and Greer further shows how "natural history subjects such as ornithology helped define white settler culture, as birdlife accounts in Upper Canada featured predominantly in promotional material on emigration for an audience in Britain," (101) much as tourists who purchased stuffed birds contributed to a "mental diorama," material evidence of a claim to the territories (110). Through these practices, often made possible by the aid of Indigenous peoples, the notion of a British Empire with broadly sweeping claims to Indigenous lands was reified, as was the notion of an oriented and empowered settler identity.

In his travelogues, Bartram draws upon and contributes to the discourses of eighteenth-century colonial exploration literature, incorporating the Altamaha's riparian environmnents into

globally-systemizing methods of cataloguing knowledge. Through documenting his travels, Bartram contributed to the knowledge necessary to claim and administer the space by incorporating Altamaha environments into frames of rationalistic Enlightenment discourse, made possible by the invention of new systems of identification and codification a few decades before his journey. In the early to mid-1700s, Carl Linnaeus developed a system of botanical identification and a binomial nomenclature for organizing the vast and exponentially growing catalogues of known plants and animals. The introduction of this new system had two revolutionary consequences (Koerner 1999). These new processes of identification facilitated the extension of a mechanized and systemized view of the natural world over the entire globe in an age when exploration and discovery were primary Western interests. A systematic botany made new-found plants useful just as mapping of continents made exploration and exploitation of continents, their people and resources, effective. But at the same time, and most importantly, "knowing" these faraway lands reinforced for European and settler audiences a sense of veracity to the colonial claims to them.

Presenting itself as an intellectual authority over exotic landscapes by means of scientific exploration, the empire through agents like Bartram reified the perception that the colonies could be controlled and settled, while simultaneously "naturalizing" that authority. In *Imperial Eyes* Mary Louise Pratt argues that "natural history asserted an urban, lettered, male authority over the whole of the planet; it elaborated a rationalizing, extractive, dissociative understanding which overlaid functional, experiential relations among people, plants, and animals" (38). This partially parallels Foucault's arguments in *The Order of Things* demonstrating that eighteenth-century methods of natural history did not "enlighten" views of nature, but rather reduced them to a set of abstractions. Representation according to modern taxonomy, Foucault argues, is reduced to

the things which make the system complete. This reduction made a great global systemization possible, which in turn made it possible for Western intellectual agents to contribute to knowledge at the center from widely disparate peripheries.

How could colonial outposts survive, subsist, and even profit in this place? This intermixing of economic and naturalistic modes emulated processes occurring within the development of science. As European territorializations of North America developed throughout the 18th and 19th centuries, imperialism and natural history became increasingly enmeshed such that "the conceptual framework, methodologies and practical techniques developed to deal with foreign animals and plants took their tone directly from those used in national expansion."(Browne 1996: 305). Producing knowledge through a global system of surveillance was a key assembling function for assembling the Altamaha as fluvial technology and binding state to space. As ruthless structures of domination abroad contradicted egalitarian, democratic, and humanitarian ideologies taking hold in Europe, the imposition of this new order was legitimized not through force but instead through myths of progress and the imagined mutuality of interest between the diffuse networks of colonial agents and their local hosts.

In *Imperial Eyes*, Mary Louise Pratt traces how new forms of scientific and sentimental travel writing arose making use of the "anticonquest" as a narrative device. In the scientific anticonquest, Pratt argues that the systemization of the world provided a means of shifting to a "utopian, innocent vision of European global authority," while providing the framework of territorial surveillance necessary to render distant lands knowable (39). The sentimental anticonquest, in contrast, centres on the experience of the narrator-explorer, "constructed as a non-interventionist European presence" in the contact zone (78). These two interconnected facets of how colonial knowledge production was encoded and represented are each at work in

Bartram's *Travels*. These dual aspects of narrating the encounter work in concert to sanitize and mystify Western expansion even as they contribute to it. Contemporary discourses and practices of environmental impact assessment too often repeat this doubled narrative in which the incorporation and commendation of Muscogee peoples and knowledge functions as a sanitizing trope and an end-run around the complex politics of place, both in claims to it and knowledge of it.

An enduring and important confluence of race and nature in the Altamaha Basin stems from William Bartram's *Travels* (1996 [1795]), as an instance of 18th-century European literary tradition of natural history and travel writing. At the close of the 20th century, a broad disciplinary range of scholars including Edward Said (1994), Mary Louise Pratt (1993), Lisbet Koerner (1999), Anne Godlewska and Neil Smith (1999) have highlighted how cultural production of natural history in the form of colonial travel writing provided an important means of "fixing" unsteady and largely unknown territory. Bartram's natural history enrolled the Altamaha in global natures implicated in the process "thinking about, settling on, controlling land that you do not possess, that is distant, that is lived on and owned by others" Said (1994: 7).

Bartram's natural history of the Altamaha works in two ways. On one hand, the tenuous hold of Europe's territorial claims to faraway lands was reassured by the narratives insisting that dizzyingly diverse *qualities* of flora, fauna, and other features could be known, represented, catalogued, made legible, even calculable, and, in this sense, mastered, or made *productive*. But the seemingly passive act of conducting natural history as a means of taking hold of territory fed a growing desire in late-18th-century politics of expansion for a manner of justifying appropriation without the guilt of violent seizure (Pratt 1993). This section examines practices of surveying, collecting, describing, and drawing, *qualities* of the Georgia territory such as the

Altamaha are structured by global networks of knowledge and crucial to colonial territorial projects.

In the 1770s, Bartram was permitted to travel through areas where other Europeans could not, according to his ethnography and natural history, *Travels* (1996), which records and enframes global natures of the Altamaha in a process of "thinking about, settling on, controlling land that you do not possess, that is distant, that is lived on and owned by others" (Said 1994, 7). Said (1994) emphasizes how colonial practices of knowing and narrating the territory play powerful roles in imperial projects beyond the "simple act of accumulation" (9).
Through practices of surveying, collecting, describing, and drawing *qualities* of the Georgia territory such as the ARS, are materialized through an enframing of *being in the land* structured by global networks of knowledge. These materializations can be powerfully durable, and yet they are also always actively being reconfigured: "always in the making, always partial and precarious" (Braun 2006a: 652).

Many academics have commented on the role of the production of natural knowledge in the colonial annexation and administration of new territories in a manner that seemed above all to be a passive, "gentle" enterprise (Foucault 2002 [1970]; Said 1993; Pratt 1992; Koerner 2001; Godleweska and Smith 1994). Such a passive form of observation gave a double meaning and capacity to affect to the natural history exploration literature. On one hand, the tenuous hold of Europe's territorial claims to faraway lands was reassured by the narratives insisting that dizzyingly diverse *qualities* of flora, fauna, and other features could be known, represented, catalogued, made legible, even calculable, and, in this sense, mastered, or made *productive*. On the other hand, such mastery fed a growing desire in late-18th-century politics of expansion for a manner of justifying appropriation without the guilt of violent seizure. Such a legitimating vision

of taking possession simply through passive enterprises of observation and documentation has been catalogued under Mary Louise Pratt's rubric of "anti-conquest" in her insightful, if controversial, *Imperial Eyes: Studies in Travel writing and Transculturation* (1992).

Colonization of Georgia was as much about bringing the Altamaha into realms of calculability and legibility of global natures through the technology of natural history as it is about the incredibly unsteady and uneven juridical processes of staking, negotiating, and settling agreements over boundaries. The Linnaean system is a technology for rendering global natures that highlights the manner in which knowing nature and making territory are mutually imbricated. Michel Foucault (2002), Edward Said (1993), and Mary Louise Pratt (1993) have each demonstrated the strongly imperial character of the Linnaean project even before it became the basis for scientific, biologized conceptions of race. And the role of this cataloguing structure was not simply instrumental to the making legible of colonially appropriated territory, but it also worked to structure subjectivities.

In addition to playing a role as bordering technology, the Altamaha was also enrolled in as fluvial technology through 18th-century colonial natural history. William Bartram, born in Philadelphia to a family of influential Quakers who frequently socialized with the likes of Benjamin Franklin and other founders of the nation, traveled through the "southern frontier" of the British colonies in North America during the dangerous period leading up to revolution. descriptions of the basin traveled the geographies of colonial empire through the natural history of William Bartram, the Philadelphia-born son of the King's Botanist for North America, John Bartram, a fellow Quaker and friend of Benjamin Franklin. The Bartram family gardens in Philadelphia are celebrated as the oldest botanical gardens in North America. These gardens are home to the original cultivars of the *Franklinia altamaha*, a shrub first described by William on

the Altamaha, thought to be extinct outside of cultivated settings for nearly two centuries (Ray 2011). His late-18th-century naturalist depictions of the "southern wilds" were produced at the cusp of several thresholds: at the emergence of the U.S. as a nation, at the birth of the modern nation-state out of colonialism's global territorializations of the earth, and, out of imperial mercantilist systems into the "two complementary movements of capitalism," that is, capitalisms manic imperative "constantly to impose limits, within which it develops and exploits its own system; and always to push these limits farther back, to exceed them in order to begin its own foundation once again on a larger and more intense scale" (Deleuze 1998: 32). His literary and artistic endeavors in this juncture were themselves products of but also crucial to the formation of both colonial and early-American "*landscapes of affect.*" Bartram's travel writing was an emergent form of governmentality's politics of calculation constituted by turbulent confluences of race and nature which enabled "the simultaneous imagination and fabrication of inner selves, social bodies, and environmental milieux" (Moore, Kosek, and Pandian 2003: 31).

4.4 Occupying the Grassroots, Cultivating Watershed Subjects

This section turns to contemporary environmental governance as part of a territorial assemblage of the Altamaha as fluvial technology. Water-oriented environmentalism in Georgia has long been at the leading edge of national developments in 20th-century neoliberal environmentalism (Brown 2002). For example, see Eugene Odum's advocacy in Georgia for relatively early and extensive wetland protection legislation in the 1970s (Harvey 1996: 151; Craige 2001). The Altamaha as fluvial technology in 21st-century governance, hails the river as a hydro-ecological entity whose environmental health is monitored and regulated through myriad permits and assessments. Working forward from the legal institutionalization of the Altamaha as an environmental entity subject to regulation by the 1972 Clean Water Act, this section

demonstrates how contemporary environmental governance has cultivated a set of practices introducing a formation of watershed subjects.

The 1990s saw a marked shift at the EPA from expansive technological remediation of unsafe waters to "a civic network strategy" focused on developing a nation-wide network of nonprofit watershed organizations and structuring political practices and relations between denizens, communities, and the state (Sirianni 2006). Rather than the grassroots organizing to alter state practices, we can read these politics as a species of governmentality that employs the grassroots to organize political identities and communities—through technological, scientific, and moral discourses on water quality and management—who then provide themselves the monitoring, policing, and management solutions for the state's need to foster the life of the population by maintaining clean water. Over the past two decades, this neoliberal innovation in governance has coupled with a movement for river and watershed conservation growing rapidly across the U.S. This section examines how such movement in the southeastern state of Georgia has consolidated around efforts to engage grassroots memberships in observation and measurement of riparian environments (Lave 2014).

Rather than the grassroots organizing to alter state practices, we can read these politics as a species of governmentality that employs the grassroots to organize political identities and communities—through technological, scientific, and moral discourses and practices about water quality and management—who then provide themselves the monitoring, policing, and management solutions for the state's need to foster the life of the population by maintaining clean water. The analysis of my research suggests we might think of this innovation in watershed governance less as the democratization of governance and more as a neoliberal governmentality occupying the grassroots. This neoliberal regulatory innovation couples watersheds to a

territorial assemblage of race-nature-state, wherein state power functions to foster the life of the population through the application of law to watersheds. Community-based organizations and activists are employed in this application of law addressed to the fluvial technology of the Altamaha-as-environment through this watershed-based approach to regulation. The coupling of civic life and grassroots activism with state regulatory powers is meant to make governance more human, less technocratic, more attentive to the needs of communities, and more deft at addressing the scalar complexities of flowing water. My empirics argue that such a neoliberal innovation in governance changes how the Clean Water Act is applied as law to a given set of environments, hydrologic qualities, ecological systems and permitted discharges into and withdrawals from this fluvial system connecting riparian bodies. It also harnesses the Altamaha as fluvial technology tied to the cultivation of watershed subjects.

Foucault's concept of biopolitics is not meant to signal a historic break marking the end of sovereign power manifested as taking or disciplining life. The state of Georgia executes convicted criminals; sovereign power still includes the capacity to make die. Watershed subjects, with whom I have conducted this research, are disciplined by this innovation in neoliberal environmentalism. As governmentality occupies the grassroots of water politics in Georgia, a distinction between good and bad watershed behavior is introduced along with a complex set of disciplinary formations structuring the nature of community-organizing and the tenor of political claims against and confrontations with the state. But the biopolitics of watershed subjects is not only a power-over (*pouvoir*), but also a power-to (*puissance*). An environmentality that occupies grassroots organizing for rivers amounts to an intensive change to an abstract hydrosocial machine enabling new capacities, opening new potentials and possibilities for connections

whereby riparian bodies, including those of watershed subjects, establish new intimacies and relations of affect between one another.

In 1994 the Upper Chattahoochee Riverkeeper formed in Atlanta and began to make headway in getting state environmental agencies and the city of Atlanta to address sewage overflows and trash in the metropolitan reaches of the Chattahoochee. Since 1994 membership in Riverkeeper organizations in Georgia has grown to roughly 5,000 people and become integrated with a growing and interconnected body of local-level watershed groups, such as the Upper Oconee Watershed Network, and state-wide advocacy groups, such as the Georgia River Network and the Georgia Water Coalition. This movement of watershed groups is composed of dedicated, impassioned, activists who frequently engage in activities to share their experiences of enjoying rivers, valuing watersheds, and laboring to monitor, police, and remediate them. Participants in this movement are also overwhelmingly white. While these groups frame their efforts antagonistically, I argue that these groups are manifestations of a technology of state power and governance, one that sustains and perpetuates racial inequity even as state recognition of environmental injustice has been institutionalized.

Today, Georgia is home to seven Riverkeeper organizations, members of an international environmental stewardship association of Waterkeepers, which originated with the Hudson Riverkeeper in New York and has developed into an alliance of more than 200 organizations. According to a 1999 history and *how-to* of the Riverkeeper movement, the Hudson Riverkeeper was formed in 1983 when a "blue-collar association of commercial and recreational fisherman" who had been addressing pollution in the Hudson River since 1966 decided to hire a fulltime "river keeper" to patrol the river and to employ Robert F. Kennedy, Jr. as the chief prosecuting attorney (Cronin and Kennedy, Jr. 1999). Under Kennedy's direction, the organization has honed

and distributed a "very successful" model for joining "community policing" with environmental litigation intended to force compliance with Clean Water Act (CWA) regulations that often go unnoticed or intentionally unenforced (Cronin and Kennedy, Jr. 1999: 198-199). Since 1994 membership in Riverkeeper organizations in Georgia has swollen to roughly 5,000 people and become integrated with a growing and interconnected body of local-level watershed groups, such as the Upper Oconee Watershed Network, and state-wide advocacy groups, such as the Georgia River Network and the Georgia Water Coalition.[ii] This movement of watershed groups is composed of dedicated, impassioned, activists who frequently engage in activities to share their experiences of enjoying rivers, valuing watersheds, and laboring to monitor, police, and remediate them. This section sets up a framework for questioning the formation of subjectivities cultivated through these organizations in terms of Foucault's governmentality and biopolitics.

While most of these groups develop their memberships through grassroots organizing strategies for engaging citizens, the proliferation of civic environmentalism through watershed organizations has been a targeted goal of the federal Environmental Protection Agency (EPA) since the 1972 passage of the CWA (Sirianni 2006). As with the origin story of Kennedy's Waterkeeper network invoking the labors of "blue-collar" fishermen to protect their livelihoods, each watershed network in Georgia represents its origins in a similar fashion by framing the organization as organically arising of citizen initiative and populist appeal.[iii] Often working in conjunction with the Georgia EPD Adopt-A-Stream program, which trains and certifies citizens to collect water quality data in order to help the state comply with the federal CWA, watershed groups typically focus on aggressive monitoring of waterways for pollution and other negative environmental impacts. They typically combine this monitoring practice with outreach campaigns to get people "out on the river" for recreation.

A working assumption behind efforts in Georgia to protect watersheds and the rivers they sustain is that people are *disconnected* from the watersheds in which they live, and that conservation of streams and rivers depends upon first *reconnecting* them, often through citizen-science monitoring activities, wherein community members are trained and equipped to conduct biological, chemical, and ecological analyses of riparian environments. The first step is to get people out "enjoying Georgia's Rivers, not so much on the getting involved and protecting," the director of one organization explained: "That's, you know, that's our strategy to involve people, is to first give them the opportunity to enjoy something before you expect or want somebody to get involved with protecting it." When the citizen-surveillance of a watershed organization detects a violation, it is reported to environmental authorities and the organization advocates for regulatory action. Finally, when necessary, litigation is pursued, usually under the auspices of a larger Riverkeeper group with the help of an environmental law firm. Interestingly, while the grassroots story of watershed organizations often pits the vigilant network of citizen volunteers against an ineffective or unwilling state regulatory agency, this tension is actually part of the strategic operations of the regulatory bodies themselves.By examining the practice of "Making people love rivers" and facilitating ways of "getting to know your watershed," river and watershed organizations assemble new mechanisms for embodying "connectedness" in riparian spaces of fluvial connection.

In messaging from flyers to emails to media, these practices are framed as being a good, healthy, caring citizen, but also appealing to a populist notion that, "If the state won't protect these rivers, then, by God, we're gonna make 'em." But in interviews with leaders, a more nuanced rationale was shared: people are disconnected, and we can reconnect them through knowledge and even more by having them get wet, get dirty, pick through leaf litter for aquatic

microinvertebtrates, and "get to know" rivers and streams in their communities through often damp and frequently muddy intimacies of scientific watershed monitoring. While the critical approach to environmental politics employed in this research challenges assumptions about *connectedness* and *knowing* at work in advocacy for rivers and watersheds in Georgia's Altamaha river system, this fieldwork is meant to take seriously the engagements between people and watersheds that take place under such a practice of environmental engagement.

Often among participants in this movement, the provision of recreational opportunities is regarded as the primary mechanism for initially *reconnecting* people with rivers. The executive director of one of the organizations with which I have conducted fieldwork explains the strategy this way:

> We feel like, once somebody enjoys a river, they develop a relationship with it and they want to then figure out what their role is in caring for it. That's our strategy to involve people; it's to first give them the opportunity to enjoy something before you expect or want somebody to get involved with protecting it.

Beyond facilitating recreational engagement, watershed and river conservationists also engage people in citizen-science monitoring activities, wherein community members are trained and equipped to conduct biological, chemical, and ecological analysis of stream health.

According to leaders in this conservation movement, the benefits of citizen-science are two-fold. First, the systematic deployment of citizen-science projects provides meaningful data about water quality and environmental problems that can be communicated to state regulators. Second, by participating in an assessment of stream quality, community members are "getting to know" their watersheds, thereby becoming more personally invested in protecting them. The citizen-science model of advocacy assumes not only that practices of scientific assessment will provide greater awareness of the sources and mechanisms of environmental degradation, but also

that such contact or *connection* with streams will cultivate a familiarity, even intimacy, between people and their watersheds (Little et al 2015). I argue that practices of "making people love rivers" and "getting to know your watershed" do more than simply *connect* people to watersheds; indeed, these intimate practices amount to powerful biopolitical transformations of the colonial present.

Recent waves of critique examining the social production and neoliberalization of nature point to the meaningful ideological shortfalls of the model of environmental activism indicated by such a focus on recreation and citizen-science (Smith 2008, Heynen et al 2007, McCarthy and Prudham 2004, Castree and Braun 2001). The point of my fieldwork was not to expose the contradictions at work in these forms of political engagement, nor to yet again demonstrate the operations of neoliberalism that ensnare such political engagement. Rather, I attempted to set aside these critiques for the time being in order to document the relationships, behaviors, attitudes and ideas cultivated through such activities.

Although some provisions of EPA implementation of the CWA already laid the ground work in the 1970s, the 1990s saw a marked shift from expensive and expansive technological solutions to remediation of unsafe waters directed from the federal level to "a civic network strategy" in which the EPA helped to establish a nation-wide network of nonprofit watershed organizations as well as the political practices they would deploy (Sirianni 2006). This is an extensive program to not only directly financially support these organizations with funding from Small Watershed grants (section 319 of the 1987 revision of the CWA) but also to design and disseminate communications strategies, educational outreach techniques, and scientific frameworks and metrics compatible with a model of regulation focused on citizen-monitoring:

> By the mid-1990s, a self-styled watershed movement, espousing a vision of "watershed democracy" and "collaborative management," emerged out of

> hundreds, perhaps even several thousand, disparate watershed associations and councils, friends-of-the-river and adopt-a-stream groups, and myriad other stewardship efforts. Though clearly the product of local action, inspired in part by bioregionalist ideas, and nurtured by the efforts of various regional and national associations and foundations, the movement has received essential support from EPA. The agency … has progressively aligned its watershed frame with the emergent frame of the movement—and vice versa—and it has developed or encouraged some management structures, community planning practices, and data tools to enable more effective participation, thus providing further incentives and lower costs for citizens to organize. EPA has also made funding available for national, state, and regional convenings of the watershed movement…
> (Sirianni 2006)

While it is easy to sympathize with would-be radical calls for citizen science and the devolution of ecological governance to local decision-makers through coalitional groups like watershed organizations, these trends in the US environmental movement are not in fact forms of resistance *against* a state that inadequately deters or remedies ecological destruction, as it is often framed. Instead, these organizations are political entities cultivated *by* the state as a way of performing environmental management, but, this essay argues, also, and perhaps as significantly, the management of subjects. As with role of a "perpetual discourse" on sexuality in the formation of the bourgeois subject Foucault (1990) describes in *The History of Sexuality*, "incitements to speak" about watersheds and to speak up for them as local representatives become "orchestrated from all corners, apparatuses everywhere for listening and recording, procedures for observing, questioning, and formulating" (33).

A supporter of these watershed innovations in federal environmental management, Sirianni's (2006) institutional ethnography of the community watershed approach of the EPA represents the innovation as a more democratic form of environmental governance that is also more effective than "command-and-control regulation" from the top (17). But Sirianni's boosterism betrays a veiled hostility to the David of the state's Goliath that remains at the foreground of these watershed organizations' self-portraits: "EPA has developed critical design

components—funding, training, network catalyst, technical assistance, data systems, management models, regulatory alignment—that make it increasingly possible for citizens to step up to the plate, not just as advocates and protesters but as skilled and effective coproducers of public goods and usable knowledge" (Sirianni 2006: 33). Not *just* advocates and protesters, members of these organizations have been enabled by the state to produce the changes they putatively desire, and, thus, have become appropriated to the regulatory apparatus itself. The outraged citizen demanding state regulation has been internalized to the regulation process. Protester and nation-state are reconciled to collaborators in a solidarity with which "to push back hard against some of the good old boys in some of the [state-level] agencies," in the words of one of the watershed organization's founder that Sirianni (2006) interviewed (25).

This mutualistic emergence of a reinvented state water quality management apparatus and the rapid growth of a grassroots movement of watershed-focused environmentalists is an understudied example of biopolitical subject formation and neoliberal governmentality. As such a neoliberal project, we can intimate power operating not through the caricatured, if commonplace, formula of outright deregulation unleashing the free market, but through a clearly biopolitical process in which sovereign power fosters life through an apparatus of security addressed to the population of human bodies who require clean water. And this fostering of life takes the form of disciplining watershed activists into subjects for self-regulation: if you are a good citizen, you had better "know your watershed," as Athens Clarke-County's annual Water Fest encourages us in its efforts to decrease withdrawals from the Upper Oconee Rivers. Rather than the grassroots organizing to alter the state, the state employs the grassroots to organize political identities and communities—through technological, scientific, and moral discourses and practices about water quality and management—who then provide themselves the monitoring,

policing, and management solutions for the state's need to foster the life of the population by maintaining clean water.

Many scholars of nature and society have used Foucault to think about contemporary environmental politics (e.g., Fletcher 2010; Guthman; Agrawal; Braun). Bierman and Mansfield (2014), for example, have examined how neoliberal governmentality operates through biopower in contemporary conservation, wherein the sovereign power of the sword—the power to make die—as well as the power of disciplining bodies into particular behaviors are each augmented—not displaced, but augmented—by the power to "make live and let die." They argue that conservation, while posited as scientifically detached and neutral, is in fact "biopolitical not just in that it moves from controlling individuals to statistically managing populations and species, but also in that it extends the racialized logic of abnormality in its core notions of biological diversity and purity" (xx). In this conceptualization, governance increasingly acts not only on bodies but "indirectly"; biopolitics, in Foucault's treatment, refers to the administration and imposition of power not as an attempt to control the lives of people, but through a mechanism that fosters the life of the population through "a governmentality which will act on the environment and systematically modify its variables" (2008: 271). Whereas Bierman and Mansfield (2014) emphasize the manner in which a certain logic of governance extends from the management of human populations to the management of nonhuman ones, Bruce Braun's recent paper on climate governance suggests that there is not so much an underlying logic of biopolitics, but rather that governance and biopolitics themselves are dynamic, morphing phenomena riddled by historical contingency. Focusing on Foucault's concept of the apparatus or *dispositif*, Braun refuses an analysis that assumes a logic of neoliberal governmentality and instead emphasizes the *ad hoc*, even aimless, qualities of biopower.

Much like sexuality, the intimacy between watersheds and subjects cultivated by this new technique of governance can be understood as biopolitical (Foucault 2007, 2008). Foucault's rationale for the privileged position of sexuality in the operations of biopower is that it provides an important strategic site at the conjunction of bodily disciplines and the security of populations enabling the "control of both the body and life…of life in general—with the body as one pole and the population as the other" (Foucault 2003: 253). As a sovereign power to direct life gives way to an excess of biopower to "not only manage life but to proliferate it," Foucault (2003) also argues that "the modern state can scarcely function without becoming involved in racism" because race is the name for that which allows for a caesura or "break into the domain of life that is under power's control: the break between what must live and what must die" (254). According to Foucault's conclusion to the first volume of *The History of Sexuality* (1990), modern, biologizing forms of racism took shape along with these technologies of sexuality such that "a whole politics of settlement (*peuplement*), family, marriage, education, social heirarchization, and property, accompanied by a long series of permanent interventions at the level of the body, conduct, health, and everyday life, received their color and their justification from the mythical concern with protecting the purity of the blood and ensuring the triumph of the race" (149). If the proliferation of discourses on watershed health through cultivation of watershed subjects can be read as a form of biopower, the exposure of racial minorities to more toxins through watersheds can be understood as an exception to application of power to foster life.

Over the past two decades, a neoliberal movement for river and watershed conservation has grown rapidly across the U.S. Bernhardt et al (2007) "found that river restoration efforts are growing exponentially in every region of the United States and that more than 1 billion dollars a year are invested in efforts to restore our nation's rivers" (482), and that the majority of these

governance interventions involved community groups or stakeholders. Most of these organizations operate at a local watershed or river basin scale, but they are also often networked with other organizations operating state, regional and national scales. The River Network, a national organization whose mission is "to help locally-led river and watershed groups flourish, boasts more than 80 "river partners" across the country. Today "There are over 240 Waterkeeper Organizations on six continents defending their communities against anyone who threatens their right to clean water—from law-breaking polluters to unresponsive government agencies. Without Waterkeepers on patrol, these enemies of the public good pose a clear danger to one of the most precious resources of every community — clean water." While typically framed and organized as grassroots organizations working either in opposition to, or as independent entities in partnerships with government agencies, this paper works to reconsider the conservation practices of memberships of such organizations as consistent with, and in fact constituting, neoliberal developments in governance.

In this section, I examine efforts to engage grassroots memberships in observation and measurement of riparian environments. A working assumption behind efforts in Georgia to protect watersheds and the rivers they sustain is that people are *disconnected* from the watersheds in which they live, and that conservation of streams and rivers depends upon first *reconnecting* them. The political ecologist in me is wary of such a notion of (re)connection. We are each, after all, deeply connected to the water bodies in the places we live, inextricably so. In Georgia, we draw our drinking water from rivers and our wastes are carried away by them; our electricity is overwhelmingly generated via the transformation of these surface waters into steam, and our industries—from agriculture to carpet manufacturing—depend on access to massive quantities of freshwater. So, what can conservation practitioners mean by disconnected?

Generally, the watershed organizers I have interviewed and partnered with in participatory research mean something like environmental awareness of local watersheds and first-hand experiences through recreational activities on rivers. Though pitched as an either/or—connected or disconnected—connecting with rivers actually means embodying a certain set of attitudes, beliefs, and values in relation to rivers and watersheds. In the following chapter I will analyze one of the main mechanisms used to "connect" people with their watersheds—recreation—but here I will focus on the formation of watershed subjects through the vehicle of environmental governance, often through citizen-science monitoring activities, wherein community members are trained and equipped to conduct biological, chemical, and ecological analyses of riparian environments.

According to leaders in this conservation movement, the benefits of citizen-science are two-fold. First, the systematic deployment of citizen-science projects provides meaningful data about water quality and environmental problems that can be communicated to state regulators. Second, by participating in an assessment of stream quality, community members are "getting to know" their watersheds, thereby becoming more personally invested in protecting them. The citizen-science model of advocacy assumes not only that practices of scientific assessment will provide greater awareness of the sources and mechanisms of environmental degradation, but also that such contact or *connection* with streams will cultivate a familiarity, even intimacy, between people and their watersheds. Watershed subjects are complex and nuanced. At several events, audio and video recording studies were set up for people to share their personal "river stories." On several recreational and educational river outings, participants were photographed with an explanation of "why I love rivers" written on a dry-erase board. These modes of establishing a cultural community of river enthusiasts and advocates will be explored in more detail in the

following chapter. Here I want to focus on how such watershed subjectivities are fostered through establishing scientific intimacy with riparian environments, and how these intimacies are coupled with the uneven application and administration of environmental governance.

My argument is that such embodied conservation practices are in fact crucial components in the materialization of neoliberal environments and racialized landscapes. Practices of "making people love rivers" and "getting to know your watershed" do more than simply *connect* people to watersheds; indeed, these intimate practices amount to powerful biopolitical transformations of the colonial present. I argue that understanding the intimate relationships enabled through the moment of scientific observation by citizen scientists is a crucial juncture/node in the assemblage of race, nature, and the state whereby a territory of biopolitics is produced and sustained. Contrary to the discourse of grassroots opposition to recalcitrant state regulatory agencies, this formation can be understood, not so much as intentional state intervention, but as a pathway for introducing the state into a realm of hydro-social relations.

A stream ecologist I interviewed who works full-time with benefits at a river nonprofit agreed with this line of reasoning, but asked, "does it really matter? I mean, I'd rather work for this nonprofit than at the [state environmental regulatory agency]." My research demonstrates that it really does matter. Adopt-A-Stream (numbers, protocols, quote); UOWN ; Citizen science papers. Conceptually, we can understand the coupling of governance mechanisms like the Clean Water act with the uneven distribution of exposure to toxins and risks known as environmental injustice. The Clean Water Act can be understood in such terms. The Clean Water Act establish a legal obligation that waters of the territory remain clean enough to foster the health and wellbeing of populations who use them for resources and recreation. Such a law is not directed at

controlling behavior so much as it is intended to foster the life of the population by disciplining fluvial bodies, toxins and other hazards conducted by surface water flows.

As Foucault's treatment of biopolitics intimates, this governmentality operates indirectly, by addressing the nonhuman riparian bodies connected in fluvial space. This indirect governmentality, as opposed to sovereign authority to "make die" or disciplinary technologies to discipline human behaviors, effectively works through a power to "make live" and foster the life and wellbeing of a population (something increasingly nominalized as environmental health). But disciplining flows in the river in such a form of biopolitics also functions, increasingly since the 1990s, through the cultivation of watershed subjects—citizen scientists and locally-based advocates and watchdogs. The exclusion of people of color from enrolling as watershed subjects establishes a break between the good population, to be fostered, and the bad population to be abandoned to inundation of riparian violence, whether in the form of chemical toxins, biological hazards, or environmental degradations. As such, the technological formation of watershed subjects plays a role in materially producing the racial state, assembling capacities and relations between good citizens, good communities, and good watershed practices. What happens in places without such organizations, with waters too degraded for recreational engagements, where human bodies are barred from the fraternity and intimacies of watershed subjects?

The community-based watershed approach that has transformed the administration and application of the Clean Water Act plays a crucial role in assembling the territory while also disciplining, regulating, and administering bodies. The law functions to render the river legible and calculable through various mechanisms, and some human bodies are encouraged to enter into a set of salutary and intimate relations with the watersheds they inhabit, with the hydraulic flows that enter and exit human bodies.

A number of connections are assembled in these moments of intimacy. First, specific regimes of legibility and calculability are disciplined, reproduced, and proliferated as technologies such as "Getting to know your watershed" and "citizen science" are coupled with specific apparatuses of watershed management and environmental governance. Through this process watershed subjects are formed and deployed. But, as evidenced by the extremely low rates of minority participation and as expressed in interviews and meetings documented through fieldwork, mainstream watershed organizations fail to develop greater racial inclusion and diversity, for reasons unknown or unclear to organizers and participants. By these means, an apparatus of government is established, enrolling watershed subjects in biopolitical operations that foster the life of human populations via indirect administration of power through watersheds, establishing a linkage between healthy communities, healthy subjectivities, and healthy watersheds is established. Establishing these linkages a corresponding erasure of unhealthy watersheds and watershed subjects, who through uneven access to the benefits of environmental regulations face greater exposure to environmental hazards. The intimacy of "getting to know your watershed" and conducting "citizen science" becomes increasingly requisite for the application of the force of laws like the Clean Water Act, opening up capacities for highly uneven administration, a break between populations fostered by biopolitical management of clean water and populations abandoned to the risk and insecurity of unhealthy flows.

What is happening at these embodied moments of collecting data for conservation about the quality, health, or degradations of watersheds and rivers? In chapter, I have argued that it is not best to see citizen-science monitoring and community-based river and watershed organizing as simply oppositional to the state, even if these practices are often framed and organized as such. Instead, in these moments of intimacy, a number of important connections are being made.

From this vantage, getting people out on the river is not a matter, simply, of "reconnecting" people with their local environments, from which they have been estranged by modern life and consumer culture, as most environmentalists I interviewed would have it. In these intimate moments a number of important linkages are being formed and reformed, disciplined, and coordinated into relationships of affect.

Thinking being as becoming, as Cesare (2002) writes, requires recognition that "being is always and only embedded in practices" (xvii). In the moment of watershed observation and measurement, human bodies are assembled with nonhuman entities—from bacteria to ions, sediments to macroinvertebrates—through an apparatus of fluvial technology implicated in the becoming of healthy or unhealthy watershed subjects and the materialization of the state as territory in the shape of a watershed. The productive interference of genealogy and fieldwork displaces the watershed as an ontological entity with an essentially ecological being. By diffracting these moments of material embodiment, riparian intimacies, and hydrosocial interaction, the Altamaha as watershed becomes a technology "revealing the drama of history" (Casarino xvii) and animating this diagram of a territorial assemblage of race-nature-state imbricated in a fluvial space of riparian connections.

4.5 Summary

The language of colonial law and of colonial history pushes us to think the annexation of territory as a fact coming down all at once by sovereign declaration, such that would be proprietors—European colonizers—take hold of land coded as empty (*terra nullius*), or "*unfilled*," as John Donne termed it in his 1622 sermon to the Virginia Company. Counter to the ambition of colonial law, this chapter examines the much more protracted and uneven process of producing Georgia as a territory of the British Crown and then as a U.S. state. I have shown

several ways Altamaha as fluvial technology has been central to processes of territory-making going back to the earliest days of the European contact.

Rather than grounding this political ecology of the Altamaha River Basin in the ecological and hydrological integrity of the system itself, I have instead worked to harness the Altamaha through a diffractive and differential method combining deconstruction of environmental knowledge, genealogy of the Altamaha, and fieldwork with conservationists to observe the role of the river as a technology of governance. Additionally, my fieldwork has demonstrated important aspects of Georgia's Water Supply Program and the administration of Georgia Environmental Finance Authority's use of public funds to develop future sources of fresh water for municipalities and industries, as well as the lobbying effort and initial applications of the EPD's Emergency Response Protocols, which were altered through legislation in the Georgia congress in 2014 following two toxic spills into Altamaha waters. In addition to examining the role of NGOs in environmental governance of the Altamaha through the NPDES, Consent Decrees, and Water Supply Programs from the perspective of legal and regulatory governance—topics I will take up in future writing—my fieldwork provides insights into these regulatory apparatuses from the perspective of community-based organizations.

Examining the Altamaha as fluvial technology enrolled in material assemblages of race-nature-state, this chapter helps to understand environmental injustice as biopolitical territory. Whereas Bierman and Mansfield (2014) examine how a "logic" of biopolitics has been extended into the management of nonhuman life through conservation, my argument here is that such innovative forms of assembly are not the expansion of biopolitics into new territories of control, but actually a core component of how human populations are administered indirectly through biopower under a regime of governmentality. This chapter argues, then, that the "racial state" in

Georgia, is also and importantly a hydraulic state, with a deep history of fluvial technologies materializing bodies and territory with the Altamaha—technologies bound to and becoming with violent and enduring dispossessions of Muscogee peoples, economies of slavery and suffering, and persisting forms of slow violence through environmental injustice. In the next chapter, I will build on this analysis by examining the materiality of riparian whiteness that is bound up with the materialization of neoliberal environments through the Altamaha as fluvial technology.

CHAPTER 5: RIPARIAN WHITE

5.1 Observing Whiteness

From the work of W.E.B. Dubois to bell hooks, whiteness and the performance of the color line that marks of zones of not-fully-human have long been paramount concerns of scholars of racial formation in the U.S. Whiteness as "sound racial stock" was a preoccupation of early 20th-century national leaders like Theodore Roosevelt, who established some of the first conservation areas for a love of wilderness that was tied to a fear of racial mixing and dilution threatened by the enfranchisement of African-Americans and the influx of immigrants (Roediger 1991; Kruse 2007). Building from the influential work of Stuart Hall (1980, 1997), whiteness studies has become an increasing focus of anti-racist scholarship in the past thirty years, especially in geography (Frankenberg 1997, Haney-Lopez 2006). Whiteness as a concept, is a means of exposing the particularities of normative and universalizing claims to identity (Gilmore 2000; Frankenberg 1997; Kobayashi et al 2011). A practice of first identifying the "unmarked center" of normative claims articulated through racial exclusions precipitated a need to historicize the category of whiteness. Kobayshi (1994), Laura Pulido (2002, 2000), and Linda Peake (1997) specified particular lines of analysis into white privilege and social constructions of citizenship and identity tied to whiteness as race, even as race is became widely debunked as a legitimate category of genetic or biological distinction of people. Paying attention to whiteness instead of assuming that it somehow connoted the absence of racialization, as often tacitly implied in liberal discussions of race (Haney-Lopez 2006), allows researchers to demonstrate how elaborate systems of distinction encoding whiteness function to exclude racial minorities

and perpetuate discourses of identity tied to histories of colonization and discrimination (Milligan and McCreary 2011). White supremacy requires the elaboration and reproduction of whiteness as identity, ethology, privilege, and comportment (Hall 1997; Saldanha 2006, 2007), and the hegemonic operations of white supremacy have long depended upon mechanisms to make whiteness invisible or stage its naturalness or innocence.

In genealogical preparation for fieldwork analyzed in this chapter, I worked closely through important histories of whiteness in the U.S. and Atlanta. Nghai (2004), Roediger (1991, 2005), Hale (1998), and Kruse (2007) have each written careful histories of how immigration, labor, housing, and desegregation policies have shaped contemporary common sense understandings that white people exist, but also explaining how belonging to the category of whiteness has been highly dynamic and contingent upon complex histories of internal and external migration, shifting state projects for nation building, and iterative modes of development as postcolonial global capitalism. Whiteness entangled with these structural forces is one of the principal components shaping the urban form and distributions of people across the U.S. and producing extreme disparities in wealth, health, political representation, and exposure to violence.

The preceding chapter traces a diagram of the Altamaha's entangled hydrosocial machinics, reading episodes in the life of the Altamaha as fluvial technology to better understand contemporary forms of water governance. I argue that the shift to a community-based watershed approach to Clean Water Act enforcement introduces a mode of subject formation under neoliberal governmentality that functions with histories of colonial displacement and the racial landscape of the southeastern U.S. This formation might be understood as a kind of environmentality (Agrawal 2005), a subset of operations in a broader milieu of governmentality

(Foucault 1978), that reproduces racial exclusions in the cultivation and disciplining of watershed subjects, "people who have come to think and act in new ways in relation to the environmental domain being governed" (7). Such a form of environmentality, while putatively addressed to scalar complexities of surface water governance, articulates doubly. The formation of watershed subjects in the regulation of fluvial spaces, as shown through my research, introduces a new means of articulating a racial break in the population (Foucault 2003, 2007), such that, without any directly discriminatory decisions, governance happens in a way that exposes some bodies to more death (Weheliye 2014; Shabazz 2015). This argument works to explain whiteness in environmental governance of the Altamaha as structured privilege much like studies of whiteness in immigration, labor, and housing made by Nghai (2004), Roediger (1990), and Kruse (2007).

In this chapter, I pivot off this more structural argument to consider the embodiments and affects of riparian whiteness as something beyond structured outcomes of state projects and racial formation (Omi and Winant 1994), but something materially present in bodies and their connections (Saldanha 2006, 2007). But how can we observe the dynamic, aleatory, global and local enfleshments and bodily expressions of whiteness? Scholarship on whiteness is careful to refuse the notion of a monolithic whiteness. While a global range of stereotypes, phenotypes, comportments, sounds, gestures, fashions, texts, grammars, dialects, and rhythms sensuously convey whiteness—"that's so white"—there is not some closed, determined set of attributes or positionalities that grant or deny access to the privilege and power of whiteness as institutionalized and territorial assemblage.

Whiteness is neither a biological division of the human nor merely an ethnic one. And yet whiteness is a thing. What is whiteness, then? There are many inroads into geographies of

whiteness. Geoff Mann (2008), for example, has examined the country music genre to ask the nontrivial question, "What does whiteness sound like?" Sharene Razack (2011) has explained how, in Canada, a diverse nation of immigrants inhabiting First Nations' territories, "the environment" just feels like "such a white thing" (264). The fieldwork and analysis in this chapter were more specifically modeled after three recent geographies using qualitative methods to trace the material embodiments of race that exceed the explanatory capacities of social construction: Carolyn Finney's (2014) *Black Faces, White Spaces*, Joel Wainwright's (2006) *Decolonizing Development*, and Arun Saldanha's (2007) *Psychedelic White*. Though employing diverse approaches and addressing globally distant sites of white geographies, each of these texts share a commitment to what Derrida might have written as ~~ethno~~graphy, that is, a methodological practice of observation and data collection operating under the sign ethnography, but conducted somehow with the refusal of a singular or recoverable *ethnos* per se.

This chapter examines cultural understandings and meanings, rhythms and viscosities, kinds of talk, and patterns of behavior that account for the durability of whiteness in Altamaha-based river and watershed organizations. In four years of fieldwork, I interviewed and observed Altamaha-oriented environmentalists to understand distinctive qualities and features of whiteness in these organizations. I asked how these bodies and communities form in relation to rivers and watersheds in such a way that repels nonwhite bodies. I asked white people why they thought people of color were not present, and I analyzed a wide range of practices, behaviors, fashions, and discourses as affect to see what accounts for the viscosity of riparian whiteness, why the formation of watershed subjects in the Altamaha Basin appears immunized against racial volatility.

5.2 What's Riparian got to do with Race?

In 2012, as I began conducting more extensive fieldwork, I was invited be one of the 22 presenters at the Georgia River Network's annual "Weekend for Rivers," a conference of state-wide watershed organizers. While a wide range of issues, projects, and agendas were discussed during the conference, the most consistent theme was one that reflects what my involvement with these groups has shown to be a key affective bond both between different members and between members and their relationships with the rivers they work to protect: people are "disconnected" from the rivers and watershed in which they live, and only by "reconnecting" them we can we make progress towards greater ecological health of our rivers. The intention of my talk—"What's Riparian got to do with Race?"—was to be provocative but also forthright.

On one hand, I sought to challenge organizers to reflect on the implications of the binary of connected-disconnected. I asked whether the ways river advocates, including myself, talked about connectedness could have inadvertently exclusionary outcomes, effecting a potential hostility to different ways of knowing rivers and being connected. I also wanted to publicly alert people to and foster discussion about my research project, which I had already begun explaining in one-on-one interviews, but was wary that future interviewees might begin to hear the gist of my project from other people. So, I hoped this talk would be honestly provocative but also, in being forthright, I hoped my presentation might help to quell any mistrust that might be brewing about my research among the relatively small community of river and watershed professionals and volunteers.

My talk was late in the day, and as the theme of connectedness that I hoped in some way to challenge became increasingly pronounced throughout the day, I began to wonder what hope I had to do anything but alienate myself and make people defensive. Even more disconcerting was

the fact that I had perceived only two people of color among the more than 100 participants and organizers. My discussion suggested that rather than conceiving of barriers to participation for people of color residing in their opinions, attitudes, experiences, and cultures, it would be best to look to barriers produced in the stories watershed activists tell each other about these connections as sources of exclusion. In developing my presentation, I had expected the problem of diversity to be apparent, but not this extreme, and I was concerned that my discussion, especially if it was not well-received, might put the nonwhites in attendance in an uncomfortable position. I am not sure that my talk was very good, but, regardless, my worries were not called for. Turns out, and this has been borne out in all but one interview with watershed movement professionals, these organizations are actively concerned to recruit membership and leadership that is "more reflective of who we are demographically as a state," as the director of a state-wide group explained. Rather than provoking a round of defensiveness and disaffiliation—"the practice by which white people distance themselves from the economy of signs that frame white hegemony" (Baldwin, Cameron, and Kobayashi 2011: 14)—my presentation opened up a number of lines of dialogue.

With only one exception, 49 leaders in these organizations express serious concern with the predominantly white make-up of the memberships of the mainstream organizations. Moreover, 12 interviewees spoke at length about frustrations and the ineffectiveness of initiatives for "diversity and inclusion," an increasingly common theme in conferences and missions among such organizations. One prominent leader, a white nonprofit director from rural Georgia, approached me after my talk, and said, "Listen, I'm here to win." He went on to express frustration with attempts and approaches to fostering greater diversity and inclusion, because without more diverse memberships and boards, he sees his organization increasingly

marginalized in political arenas and struggling with fundraising. Especially with shifting demographics in Georgia, he lamented, "We can't win unless we get black and brown people at our events and on our boards," but the only strategy anyone had for him was to go to union meetings and churches. Several white leaders I interviewed following a "roundtable on diversity and inclusion" held by the Atlanta Environmental Professionals of Color organization sounded the same frustration: "We always say the same thing, but never make any progress."

The most focused initiative to foster greater diversity among the mainstream groups that I have researched is Georgia River Network's project to commission a series of water-focused blog entries on Oakland-based Rue Mapp's popular website, "OutdoorAfro: Where Black People and Nature Meet," which aims to connect African-Americans with natural spaces and one another through recreational activities such as camping, hiking, biking, birding, fishing, gardening, skiing" by disrupting the "false perception that black people do not have a relationship with nature."

While the desire to foster greater diversity and inclusion in mainstream conservation groups, these intentions and initiatives centered on "reaching out" to people of color, encouraging them to get over their doubts, appealing to stereotypical or commonplace assumptions about black people. Often when observing these kinds of appeals, I was very uncomfortable, as seems to inevitably occur (Finney 2014), the few people of color were often explicitly asked to disclose a universal statement of a racial culture with which they were identified. Very few white people I talked with, even when at pains to establish that we are not talking about intentional acts of discrimination or racial hostility, had any sense that there was work to be done to examine racism within the practices, assumptions, and discourses of their organizations, even those have been developed over roughly 20 years with effectively zero input

from people of color, in addition to the century of environmentalist culture building from close ties with the eugenics movement through decades of intense and pervasive whiteness.

This section has named the problem of riparian whiteness as something that requires more than inviting nonwhite people to be included. River and watershed events are overwhelmingly white and though organizers prioritize diversity and inclusion, they are frustrated in their efforts. As one African-American watershed organizer I interviewed put it, "inclusion is not the solution." Riparian whiteness is a formation assembled with watershed subjects and a form of governmentality that systematically affords environmental governance for some more than others. "You can include black folks into white groups all you want," the interviewee continued, but, until there is an actual "legal mechanism" and "economic change," black people are going to get "the worst deal." Riparian whiteness is, then, the coupling of white subject formations in relations of affect between people and rivers with a form of governance that sustains uneven political ecologies of race. In the following section, I delve more deeply into an analysis of riparian whiteness as observed on the banks of the Altamaha and its many tributaries by thinking through volatility, viscosity, and affect.

5.3 Volatility, Viscosity, and Affect

Why do white bodies stick together and connect more readily to watersheds in the Altamaha Basin? What relations of affect account for the differential access to governance and the lack of racial volatility in the formation of watershed subjects? The photograph in Figure 5.1 depicts participants in a week long, 100-mile paddle trip down the Altamaha River in 2012 organized by the Georgia River Network, a 501(c)3 nonprofit that supports some 35 watershed organizations throughout the state by fostering strategic communication and cooperation between them, and by working to establish "watershed groups in all watersheds across Georgia" (GRN

Figure 5.1: Paddle Georgia Group Photo, Altamaha River 2012
(Photo Credit: Joe Cook, Georgia River Network)

2011). Paddle Georgia draws about 350 participants each year, and the 10th anniversary in 2014, sold out on the first day. My observations of riparian whiteness included participating in two of these weeklong events. American outdoor group based in Atlanta, with whom I volunteered as a guide on a river camping trip on the Ocmulgee in 2006, demonstrate interest and capacity to recruit African-Americans for recreational outings, Paddle Georgia remains extremely white. As one leader characterized it, the put-ins, take-outs, and campsites, "look like an REI refugee camp."

In June of 2014, I attended the annual meeting of the two largest membership-based river and watershed advocacy organizations in Pittsburgh. The previous year I attended the River Network's annual event in St. Louis, a smaller group of organizations who are members of the nation-wide group that attempts to help local non-profits better recruit and manage resources, facilitate collaboration, and distribute information across the network, but every other year, the River Network and the Waterkeeper Alliance hold joint meetings like this one in Pittsburgh. The event brings together thousands of environmental professionals and activists working to protect and restore rivers and watersheds. I was at the meeting in Pittsburgh to present with the South

River Watershed Alliance, but I used this opportunity to conduct fieldwork that might provide insightful counterpoint to the specifics the Altamaha. Our talk was part of the "Urban Rivers" track of the four-day conference, which is packed with meetings and plenaries, with several sessions scheduled at the same time in different tracks.

The meeting highlighted several ways that findings from my fieldwork in Georgia are relevant to the broader national movement of river and watershed organizations. First, much as in Georgia's mainstream conservation groups, people of color made up less than five percent of the participants I observed at the conference. This is a conservative estimate, the ratio was even smaller by my observation, but it is necessary to include a large margin for error. I tallied people by visual and aural observation of phenotypic traits, bodily comportment, voice, dialect, and style in order to designate whether I thought they would identify as white or not. Secondly, most of the people of color were part of the urban rivers track, which focused largely on environmental justice. Awkwardly, the "urban track" was way across a long concourse on the opposite side of the conference center from the rest of the meetings. Many people with whom I spoke joked affably about this uncomfortable irony, but it presented the racial dynamic of the conference into stark relief: if you were not white, you were probably urban, and even if not urban, you were almost certainly EJ, which was lumped in with the "urban track" anyway.

I presented with a leader from SRWA about why the "environmental justice narrative" just did not work to address profound degradations to a major river running through predominantly African-American neighborhoods in Atlanta. We had two main points in addition to talking through a lot of details about the degradations of South River that the organization has been working to curtail. First, we wanted to explain why EJ does not work to motivate African-American communities in Atlanta. The communities proximate to South River are made of

residents who have either long suffered compounded racial injustices in that city, or many newcomers from around the country who feel positive and excited about Atlanta, often referred to as the 21st-century "Black Mecca." South River organizers had quickly learned that talking about environmental justice excited members of the political establishment who were not really interested in the river, but could use the environmental justice narrative to bolster broader political campaigns. It did not motivate people to come out and get involved and get to know the river and value it. Talking EJ was much more likely to alienate newcomers especially who much preferred positive forms of identification and connection to the suburban landscape to which they had relocated. Whether conscious of environmental justice movements or not, the narrative of EJ is inflected in the terms of an old story, one that many people in the fastest growing African-American suburb in the U.S. have been working, and indeed moving, to escape.

While the organization was confident on this reading of the community and how best to engage residents, there was an awareness that a certain level of "double consciousness" and African-American class division could be provoked by this assessment and embracing strategies in light of it. After all, many of the few black people at this international meeting were representing urban communities whose residents have little capacity to leave conditions of violent environmental racism. And here we are saying that folks in one of the largest affluent African-American suburbs in the U.S. don't want to be associated with this enduring struggle. Instead, SRWA is was much more capable to recruit volunteers and participants through narratives of redemption, restoration, and recreational adventure "in your own backyard."

But our second point was potentially even more provocative. Given the experience of SRWA leadership in EJ struggles in the 90s, the recent race to "recognize" EJ by the EPA and mainstream conservation groups was met with distrust. In preparing our hour and half long

session, we were concerned that our main points would inspire ire. Many of the white people I interviewed for this research interjected, when I came to talking about race, with something of flourishing discourse indicating their awareness of and sensitivity to environmental justice. In Pittsburgh, many of the high ups, a coterie of top ranking water pros who are admitted into BKJR's elite circle of intimates, seemed almost to flaunt the inclusion of the "urban/EJ" track. SRWA's critique of the institutionalization of EJ ran exactly counter to this mood and the repeated tropes about "recognizing EJ" and the importance of EJ. One terribly offensive presentation was premised on the notion that the audience would be primarily white, and that many white organizations might unknowingly have an "EJ community" in their watershed. The talk went on for over an hour blithely describing how you might come to know that you are an EJ community, heavy-handedly nominalizing the poor and disaffected, their poverty and abjectness, only to dangle the promise of funding opportunities if you could effectively "recognize" the EJ in your community.

Carolyn Finney (2014) explains an aspect of this problem clearly—the notion that if you are black in the environmental movement, you are likely to be pigeonholed and even encouraged to identify as EJ. Finney also cautioned me about the double double consciousness that might be haunting the tenuous and provocative strategy that refuses state recognition of EJ and suggests that, instead "acting like the white organizations" will get you more from the state. In fact, I think it might be more a "triple double consciousness." It is clear to SRWA organizers that assuming the stigma of EJ that comes with state recognition of environmental injustice gets you nowhere. Refusing the ghetto of EJ in river and watershed governance allows you to improvise against the racial state, compelling it to regulate fluvial hazards and riparian environments in the ways that can be commanded by mainstream organizations. In effect, "acting white", at least in

the eyes of the state and in relation to mainstream river groups, is going to get you more commitment to rectify environmental justice than can be garnered by allowing the state to "recognize" you as an EJ community. But this "acting white," as I have observed it in the field, is not an identification with whiteness that corresponds to a rejection and disavowal of self and blackness. It is much more strategic than that.

In public meetings and in-depth interviews, I asked leaders of the river and watershed conservation movement in Georgia "What's riparian got to do with race?" (Milligan 2012). Despite an initial balk, most people I interviewed, when prompted, could identify couplings of race and rivers without much trouble. One coupling, for example, is the disproportionate exposure to pollution in watersheds affected by sewage overflows and hazardous wastes (Echols 2015). Another coupling operates between whiteness and river outings, and the simultaneous decoupling manifested as an absence of people of color in river-oriented recreational settings. The absence of black people in canoes and kayaks in the Altamaha Basin is part of material reality. What accounts for this absence? Carolyn Finney (2014) explores this question more broadly in terms of the great outdoors through a study of mass displacement of African-Americans from the southeastern U.S. through the great migration coupled with a history of violence in the great outdoors. The violence of the racial state includes landscapes of memory and belonging (Schein 2006) conducted in rural or remote locations. Chattel slavery of plantation agriculture and the threat of violence along trajectories of escape and passage through the Underground Railroad render a coupling between the "southern wilds" valued by conservation discourses and African-American experiences of place and memory. In the 20th century, lynching and other forms of violence conducted against people of color without recourse to legal justice under Jim Crow have a correspondence with the violence of memorialization in the "white-

pillared" South and other forms of territoriality which erase blackness from the natural landscape and overwrite it with significations, such as the confederate flag (Hoelscher 2006). Every African-American I interviewed expressed some awareness or concern about the preponderance of rebel flags and other down-home white signifiers coupled with the relative absence of law enforcement in the swampy riparian margins of Altamaha flows, the very places most valued by mainstream conservation (White 1999; Finney 2014).

Except for one interviewee that said he did not care about fostering diversity because the environmental issues are so pressing that the distraction of trying to get people of color involved just does not warrant the "waste of time—if they don't get involved then so be it"—every professional in river or watershed organizations that I interviewed expressed heartfelt and strategically significant concerns about the lack of racial diversity in their organizations and the movement. The following is one of the more elaborated and frank discourses, but most river folks spoke in a similar register about the problem of whiteness in their work:

> I've been part of the poor class of people all my life. I was raised right there with black people way back down there now. Worked with them in the cotton fields and all that. I don't totally understand them, but I do know part of their concerns and problems. Down here, the majority of them are racially based, period. There's no other freaking way to say it. It's racially based. It's a culture. There's a culture out there that we have…

While many interviewees eschewed explicit statement of racial difference and attributed the lack of racial diversity in their organizations to the unfortunate correlation between race and poverty, this leader was adamant to acknowledge real differences that exist between black and white people in Georgia. And he made a correlation between capitalist economic systems and the perpetuation of racial identities:

> We must as capitalists have a cheap labor market and the only way we can have a cheap labor market is to keep certain people poor.

> "Don't worry about them too much in school. You don't care whether they are in school one day or not. You want that cheap labor market." That's it in a nutshell. You can't get politicians to say that, or anyone else, but somebody like me that's already… I'm 72. What are you going to do to me? I was raised with those people. Clearly, do not fully understand them. Don't get me wrong. I know their culture is different than mine. It's always been different. Back when I was a boy, their cultures were different. We didn't mix. They drank water out of the colored water fountain and I drank out of the white water fountain. It was the same thing for the bathroom, the movies, service counters and drug stores, everything… Back then…You know, I even think back… Richard, I think back now, then, they had their own high school and their own school, and so did we. But you go look at their school, windows broke out all the time and that kind of stuff, you know. There was no upkeep. They didn't waste money and time on them. They didn't care whether they were there or not. In a classroom, they couldn't pick cotton and hoe peanuts, you know, that's what they wanted then—somebody to sweep the floor and mop the floor and clean their yards or something. That culture is here. It's still with us. It's all bit deeper hidden. Much deeper hidden, but it's there. I mean, just look at what's going on today. They don't even want them to be able to vote. They don't want them to make money. They don't want to give them no health care. They don't want to do nothing. It's still part of that freaking old Southern culture that "you're black, I'm white, I'm better than you. You need to know that and keep in your own freaking place." But that's just part of the…

While most initiatives for fostering diversity and inclusion state the problem of riparian whiteness as an unfortunate quality embodied by people of color, this interviewee was unique in identifying whiteness itself as a barrier. Organizers who raised funds to bring "underprivileged" children from Atlanta on the week-long Paddle Georgia trip, articulated the problem as merely a lack of opportunity and experiences in nature. These lacks result in people of color being even more "disconnected" than the average white watershed subject. Such notions of reconnection and disconnection fail to recognize the different ways that people connect with and also value or fear natural landscapes.

In this section, I have outlined some of the relations of affect that account for the viscosity of riparian whiteness in river and watershed environmentalism in the Altamaha Basin. The Following section traces some of the colonial presences in contemporary riparian whiteness.

5.4 Colonial Presences in Contemporary Riparian Whiteness

Drawing upon geographical studies of race, nature and the cultural politics of difference (Moore, Kosek, and Pandian 2003; Baldwin, Cameron, and Kobayashi 2011), I specifically focus on the role of William Bartram's Travels (1795) in the relations of affect fostered in this watershed movement as it is exemplified in a number of contemporary literary and artistic productions that situate environmental ethics in terms of a longing for the "pre-contact" wild natures that Bartram's 18th-century travel writing are understood to portray. Thinking through contemporary assemblages of race, nature and the politics of difference, this section examines the role of William Bartram's *Travels* (1996) in Georgia's watershed movement as exemplified by a number of contemporary literary and artistic productions that situate environmental ethics in terms of a longing for "pre-contact" wild natures that Bartram's 18th-century travel writing are understood to portray. The analysis demonstrates how the cultivation of affective relations—both between environmentalists and with watersheds they desire to protect—has the unintended consequence of reproducing landscapes of racial exclusion, specifically by way of a trope which identifies "doing right by the land" with making amends for social wrongs. Tracing the continued presence of colonial regimes of vision from Bartram's work through a growing body of literary environmentalist texts focused on the Altamaha River System, I bring theoretical resources from postcolonialism to bear on contemporary moments of political organizing throughout this basin to ask how the colonial present continues to underwrite the political ecology of the Altamaha, from urban headwaters to its swampy bottomlands.

In Georgia's contemporary watershed politics, Bartram's landscapes continue to *haunt*[iv] the landscapes of affect through which "race and nature gain their tangible presence in the lived experience of individuals and communities" (Moore, Kosek, and Pandian 2003: 31). I use *haunt* here to gesture to Derrida's play on ontology and "hauntology," referring to moments when, as Jake Kosek (2006) puts it compellingly, "the boundaries between subjects and objects are broken, when the past and sometimes the future occupy the present…..things past and long buried return to occupy the contemporary, and subjects cross the material boundaries of their former bodies" (259). Spivak takes up the Derridean notion of haunting against Jameson and Sartre as follows: "To be haunted is also to lay to rest any hope of 'detecting the traces of [an] uninterrupted narrative, in restoring to the surface of the text the repressed and buried reality of [a] fundamental history, [in which] the doctrine of a political unconscious finds its function and its necessity,' which was Fredric Jameson's project some years ago. If for us the assurance of transference gives way to the possibility of haunting, it is also true that for us the only figure of the unconscious is that of a radical series of discontinuous interruptions. … today's cultural studies should think at least twice before acting on a wish to achieve that impossible seam, endorsing Sartre's imperial conviction: 'There is always some way of understanding an idiot, a child, a primitive man or a foreigner *if one has sufficient information*' (Spivak 1999: 208).

I began thinking about my involvement in river conservation organizations and events as preliminary dissertation research on race and nature in the Altamaha River System in the fall of 2010. The first event was a book launch – "An Evening with 18th-Century Naturalist William Bartram," hosted by the Oconee Cultural Arts Foundation in Watkinsville, Georgia. The event featured a reading by Dorinda Dallmeyer, an Environmental Ethics professor and champion of southern nature writing, from a prefatory essay to a new edition of William Bartram's (1795)

Travels (Dallmeyer 2010). The new edition features a collection of contemporary essays on the *nature* of the South, each of which pays homage to Bartram's 18th-century naturalism exhibiting the authors' shared longing for the purity of the nature that the mythical figure of Bartram is imagined to have encountered and reproduced through his travel writing. Bartram's *Travels* is a rich and inviting text from the 18th-century European literary tradition of natural history exploration travel writing, remarkable for a subtle and sometimes sly capacity to upend commonplace notions about colonial knowledge and Indigenous lives. Despite this honorable countercurrent to typically caricatured colonial renderings, the majestic grandeur of the natural world in the southern British colonies that Bartram celebrates is still rendered from a particularly colonial perspective. Moreover, the gaze of the "gentle flower hunter" – a name given to Bartram by Seminole Mico whose permissions granted him access to parts of their territory in the "debatable land" that came to comprise parts of Florida and Georgia – was a gaze that rendered the spaces of colonial contact visible to the audiences that commissioned and patronized this kind of exploration. And the narration of the natural made possible by such the gaze of a "flower hunter" was in fact a crucially necessary component of making British (then US) territory in North America through colonization.

What is remarkable in the homage to Bartram on display at the book launch and among many watershed organizers in the Altamaha Basin is how explicit the longing for pre-contact purity is. The figure of Bartram is imagined as a kind of talisman for the restoration of such purity that also promises to disentangle the authors from nightmarish social contingencies of the present. In the collection, John Lane (2010) recounts his attempt to hear "the only recording of a vanished Southern river" in what he hoped to be his "true Bartram moment, a supreme relic of relics" (390). An essay by Drew Lanham (2010) engages with contemporary race struggles to a

limited extent, but much of this essay plays upon tropes of lament for the loss of landscape and for the sullying of a landscape whose virginity is no longer "intact" (415). The laudable invocation of race struggle is largely undermined by an extended conceit confounding the degradation of landscape with the social degradations experienced by Indigenous peoples and African-Americans. In an essay from the collection on bird-watching, Thurmond announces, "All of this wouldn't be possible without Bartram and generations of naturalists like him, whose observations, naming, and theorizing have given us our words for the birds" (437). Throughout the conservation community in Georgia today, Bartram's Quaker-inflected awe for the natural world and respect of the Indigenous peoples he encountered and described continues to resonate with conservationists attitudes about how we should relate to "the landscapes Southerners know and love so well" (Dallmeyer 2010: xi).

In her remarks, Dallmeyer claims that *Travels'* quintessentially southern nature writing "provides us with a starting point for reconstructing and reclaiming the natural heritage of the South" (Dallmeyer 2010: xi). Janisse Ray's contribution to the collection sums up the refrain of many of these essays:

> For modern Romanticists, with our beliefs in the goodness of nature and the purity of the primitive, naturalists are heroes. They drift between two worlds, that of nature and that of humans, searching for rare and unheard-of adaptations of life, cataloguing what exists, hungry to understand habits and behaviors. (Ray in Dallmeyer 2010: 333)

Through participation and observation at events like this book launch, and through preliminary interviews that I have conducted with people engaged in water politics throughout the Altamaha River System, I have come to recognize that the river conservation movement in Georgia is deeply invested in this vision of the world marked by a clear distinction between nature and culture—a vision in which the nightmarish impurities of history; the racial, gendered, and class-

based violence and exclusions that undergird life in the southern U.S.—are recuperated through appeal to the Edenic purities of the primitive wilds that Bartram is understood to have explored. Indeed, investment in and cultivation of this way of seeing nature permeates both the strategies for outreach and the coalitional bonding necessary to foster communities of political alliance and affect.

Such a fundamental relationship to the unspoiled natures of colonial cultural production makes rather explicit the phenomenon Braun (1997) refers to as "buried epistemologies" that shape representations of and relations with nonhuman natures at work in contemporary southern conservation rhetoric, strategy, and relations of affect. The argument of this essay works from a body of literature that challenges "nature as a given material environment," but it also challenges the view of "race as a fixed field of difference" (Moore, Kosek, and Pandian 2003: 16). This moment from my preliminary dissertation research gives an intimation of each of these problematics. Even if it is, anything but monolithic, a diverse category rife with geographic and historic contingency, whiteness cannot work to shape terrains of power as it does without recourse to notions of purity and pollution in ideological conceptions and material relations to the natural world. Not only are the presences and absences that make up the core of contemporary conservation ethics in Georgia dependent upon complex relations with frameworks for knowing nature that remain to be sufficiently decolonized, but the phenomenon of whiteness—the embodied material practices that constitute whiteness as a formation of difference and articulation of power—is also produced, in no small part, out of these cultures of nature. To borrow from Ruth Frankenberg's (1997) lexicon, "the exposure of whiteness masquerading as universal" (3) requires that we "displace the 'unmarked marker status of whiteness" (1), and this displacement, according to race and nature studies, requires that we

challenge the naturalness of the natures in which we invest politically, economically, and libidinally (Braun 2002). It isn't simply that people of color were not in attendance at "An Evening with 18th-Century Naturalist William Bartram," though, as at other conservation-oriented events I have attended in my preliminary research, few if any visible minorities were apparent.

The rubric of race and nature studies, as a species of social natures research, highlights the manner in which the facts of environment not only resonate with but are materially individuated through performance, affect, and labor practices in concert with a "repertoire of 'images' or tropes that construct versions of femaleness and maleness divided by race, nationality, or peoplehood" (Frankenberg 1997: 11). Whether vested in a longing for the vanished noble savages and disappeared ecological communities of Bartram's landscapes, or hoping for a reconciliation and redemption from the twin horrors of the slave system and ecological degradation that so presently mark contemporary human and nonhuman landscapes, the southern nature writing of *Bartram's Living Legacy* gives credence to the fact that colonialism and whiteness remain core features of the natures that contemporary practices of conservation seek to preserve in Georgia.

In Georgia's contemporary watershed politics, Bartram's landscapes continue to *haunt* the landscapes of affect through which "race and nature gain their tangible presence in the lived experience of individuals and communities" (Moore, Kosek, and Pandian 2003: 31). Another part of the "Evening with 18th-Century Naturalist William Bartram" discussed above was the exhibition of several pieces from a collection of landscape paintings by Philip Juras titled *The Southern Frontier: Landscapes Inspired by Bartram's* Travels (2011; Figure 5.2).

Figure 5.2 *Changing Conditions* Altamaha River, Wayne County, GA (September 2009, Philip Juras, Oil on Canvas 24" X 36")

Juras (2011) describes the at once eco-realist and historical interpretation of his project this way:

> …intact presettlement landscapes are few and far between. Very little has been left untouched by the exhaustive agricultural practices and intensive logging of the nineteenth century, compounded by the industrial agriculture and silviculture, as well as suburbanization, of the twentieth, and now twenty-first centuries. Where a remnant does survive, it is likely to have been greatly affected by fire suppression, hydrological alteration, and invasive species. It's no wonder that, to a modern southerner, Bartram's effusive descriptions of nature in the eighteenth-century South seem like hyperbole. We have so little that compares with the landscape he saw. But having studied, explored, and painted some of the most beautiful and intact remnant landscapes in the South, I would argue that William Bartram told it as it was. (Juras 2011: 30)

In *Old Growth Cypress in the Rain* (Figure 5.3), Juras depicts one of the lower Altamaha's riparian environments that conservationists value highly. Some of the very few remaining

Figure 5.3: *Old Growth Cypress in the Rain,* Altamaha River, Long County, GA (Oil on Canvas 18" X 24" September 2009, Philip Juras)

examples of old-growth cypress on the lower Altamaha can be found on Lewis Island, just a few miles upstream of Darien, Georgia. The harvesting of cypress throughout the bottomlands of the Altamaha's riparian environments is honored and understood as a necessary component of knowing the ecological value of the hydro-ecological relations sustained by the Altamaha's flood pulses.

> Inspired by Bartram's *Travels* and my own long-standing desire to see the presettlement landscape, I've created these paintings to offer a region-wide vision of the landscapes that Bartram encountered over two-hundred years ago. Most of the paintings portray remnant landscapes that exist today. Others depict landscapes that are now lost. (Juras 2011: 30)

As Juras intimates in the description of his impressive artistic works, the politics of vision and ways of seeing watersheds cultivated by a growing watershed movement in Georiga are suffused with a desire for an "intact" land free from "hydrologic alteration[s]" and ecological impurities introduced by "invasive species." Juras' botanical realism functions to portray the natural spaces of the Altamaha, and uses a return to Bartram's colonial science as a way of bringing the ecological entities that have been lost in the landscape back into the present of an ecological imaginary. These tropes signal particular relations of affect that include a longing for Bartram's precontact wild natures. By way of such tropes, riparian whiteness includes a way of understanding environments whereby doing right by the land is also a means of freeing oneself from the structures of inequality and systems of violence that characterize the contemporary landscape. The politics of vision and ways of seeing watersheds cultivated by a growing watershed movement in Georiga are suffused with a longing for pre-contact purity was, but also how the figure of Bartram is imagined as a kind of talisman for the restoration of such purity that also promises to disentangle the authors from nightmarish social contingencies of the present. Such tropes are a mainstay of one of the Altamaha's greatest champions in the genre of environmentalist natural history.

An important member of the Altamaha Riverkeeper and proponent of river and watershed conservation in Georgia, naturalist poet and author of award-winning environmentalist nonfiction such as *Ecology of a Cracker Childhood* (1999) and *Drifting into Darien* (2011b), Janisse Ray wrote a prose poem included in the exhibition catalogue for Juras's *The Southern Frontier* (2011). In the piece, Ray begins upon the theme of loss by invoking the Creek or Muscogee peoples who had welcomed Bartram into their territory for his explorations:

> Cut down. Carried away. Cast aside. Candles in the wind. Acts of frittery and ignorance and clamor.

> The chiefs are gone now too. As are their dreams. Their dreams becoming my own. …
> Every day I miss Bartram. … Without Bartram, how would we have known what was? Without his curiosity and courage, what?

The selves that Ray and Juras bring us back to are selves that are formed of relations of race, nature, and the state organized under a regime of neoliberal biopolitics that works in part through the simultaneous disciplining of subjects and materialization of watersheds as calculable spaces.

> To be passionate for something that no longer exists is to consign oneself to misery. A great grief. Not a day passes that I don't think of what was taken. Sometimes I wish I had fallen in love with cities, or with dogs and cats, or banking, because I might not then live my life in an almost constant sea of grief.
>
> And in constant mood for restoration. For return.
>
> To re-create requires a brilliant magician.
>
> Which Philip Juras is. Coyote, he sees the ghosts. He reads the records written in stones and hears the stories of trees.
>
> As if he traveled alongside Bartram, carrying a box of paints and a leather tube of rolled-up canvas, making sure that the work was not swept away in river crossings or lost on horseback.
>
> The painter was given the eyes of Bartram.
>
> Which makes it possible for us to step inside landscapes that used to be, existing no more, and experience them. The painter makes the destroyed earth come alive, come true.
>
> The painter documents what was as well as what is.
>
> He dreams of restoration. His the world we've longed for. Endeavored to re-create. He mixes the colors of his dreams and lays them on canvas. The art returns us to ourselves: Sense of identity. Promise of happiness. Presence of spirit. (Ray 2011a: 10)

The homage to Bartram characterized by the works of Juras and Ray demonstrate some important affective relations and capacities cultivated in the formation of riparian whiteness. In part, these affects document a riparian variation of what Aldo Leopold, nearly a century-ago, advocated for in the cultivation of a *land ethic*, a relationship to environment founded on a longing for loss and passion for wilderness.

This form of longing for and avowal of identification with *lost* colonial landscapes works through a simultaneous appropriation and disavowal of difference: the *lost* Muscogee Micos are

returned to a present where a white environmentalist landscape painter becomes the mythical Coyote figure who "returns us to ourselves." The selves that Ray and Juras bring us back to are selves that are formed of relations of race, nature, and the state organized under a regime of neoliberal biopolitics that works in part through the simultaneous disciplining of subjects and materialization of watersheds as calculable spaces.

In a beautiful book of portraits of the Altamaha River by Altamaha Riverkeeper emeritus, James Holland, an essay by Janisse Ray portrays Holland, who began as Riverkeeper in 1998 when the organization was founded, as a beleaguered crabber forced into the tireless work of conservation because environmental violations were depriving him of his livelihood (Ray 2012). The story is true—Holland had become an activist as his haul of crabs from the marshes steadily declined and he grew increasingly involved and frustrated with regulatory agencies and stakeholder meetings—but the Altamaha Riverkeeper would have begun with or without Holland, a man whom Ray describes as speaking "the people's language" (21) from humble origins of a "jumbled-up childhood" (14), "who learned as a kid to be a fighter" (18), whose "life was not a picture-book" (13). The Altamaha basin is one of the largest on the east coast and had already been the focus of considerable conservation efforts by the Nature Conservancy. As the EPA cultivation of watershed associations became more robust, non-state large funding organizations were increasingly interested in supporting such groups because the state initiatives made them more likely to be recognizably effective (Sirianni 2006). So, the money and the strategy were there in 1998, and though his steadfast work at the organization no doubt contributed to its many successes, the proliferation of watershed protection organizations like the Altamaha Riverkeeper is not a result of so many James Hollands taking matters into their own hands, though that is how the story usually goes. As a lauded southern nature writer, Ray's

portrait of the Altamaha's first Riverkeeper skillfully limns Holland's story as one of transformation from environmental ignorance and inaction to vigilant citizen stewardship of the river, which is the aspirational and promotional vision of watershed organizations around the country: Holland's narrative is intended to galvanize a grassroots movement of citizens taking environmental monitoring, enforcement, and remediation into their own hands until "Slowly, a people began to reconcile themselves with their landscape, with their home, and with each other" (Ray 2012: 22).

The analysis demonstrates how the cultivation of affective relations—both between environmentalists and with watersheds they desire to protect—has the unintended consequence of reproducing landscapes of racial exclusion, specifically by way of a trope which identifies "doing right by the land" with making amends for social wrongs. Tracing the continued presence of colonial regimes of vision from Bartram's work through a growing body of literary environmentalist texts focused on the Altamaha River System, brings theoretical resources from postcolonialism to bear on contemporary moments of political organizing throughout this basin to ask how the colonial present continues to underwrite the political ecology of the Altamaha, from urban headwaters to its swampy bottomlands.

Throughout the watershed and river conservation community in Georgia today, Bartram's Quaker-inflected awe for the natural world and respect of the Indigenous peoples he encountered and described continues to resonate with conservationists attitudes about how we should relate to "the landscapes Southerners know and love so well" and that it "provides us with a starting point for reconstructing and reclaiming the natural heritage of the South" (Dallmeyer 2010: xi). In this way, an important component of riparian whiteness shared longing for the purity of the nature that the mythical figure of Bartram is imagined to have encountered and reproduced through his

travel writing. Conservation functions also, then, as recuperation through appeal to the Edenic purities of the primitive wilds that Bartram is understood to have explored. Indeed, investment in and cultivation of this way of seeing nature permeates both the strategies for outreach and the coalitional bonding necessary to foster communities of political alliance and affect. Such a fundamental relationship to the unspoiled natures of colonial cultural production makes rather explicit the phenomenon Braun (1997) refers to as "buried epistemologies" that shape representations of and relations with nonhuman natures at work in contemporary southern conservation rhetoric, strategy, and relations of affect.

It is not simply that people of color are absent from the movement. Longing for the vanished noble savages and disappeared ecological communities of Bartram's landscapes, or hoping for a reconciliation and redemption from the horrors of colonialism, the slave system and ecological degradation that so presently mark contemporary landscapes in Georgia. As such, a relation between colonial natures and riparian whiteness remains a core feature of the natures that contemporary practices of conservation seek to preserve in Georgia.

This genealogy argues that there are profound colonial presences in contemporary discourses of conservation and environmental governance of the Altamaha River System and its riparian environments. The clear take away from my ethnographic engagement is that decolonizing confluences of race and nature that have been institutionalized in Southeastern watershed politics would be an essential component of beginning to examine the incredibly viscous and persistent exclusionary culture of riparian whiteness that repels racial diversity.

5.5 Summary

Throughout my interviews, observations, and participations in the watershed movement, the concept of political engagement circles around and back to a dominant and droning refrain.

All leaders I interviewed discuss the practice of, as one veteran likes to put it, "Making people love rivers." A middle school teacher from rural south Georgia who swam the entire Altamaha river in 1997 in order to raise awareness about the contested toxic effluents from the Rayonier cellulose manufacturing plant in Wayne County, told me, "You have to get people to think of the river like its their sister. You wouldn't hurt your sister. You are going to get mad and go to town if someone else is hurting your sister."

Race and nature studies is an important and necessary avenue for conducting research into the ecopolitics of the Altamaha River system, especially to the extent that affective bonds of the watershed movement are articulated through a return of colonial social natures to a present that makes an absence of difference. The rubric of environmental justice is necessary to make sense of and political interventions into the uneven distribution of PCBs and fecal coliform in metro Atlanta. The recalcitrance and indeterminacies of water's materiality make hydraulic sites of environmental racism more difficult to measure and monitor, which points not simply to the ontological argument for questioning the naturalness of biophysical givens, but, in fact, shows that a more robust theory of social natures is needed to engage the politics of watersheds and EJ. The rubric of race, nature, and the politics of difference is crucial to realize the degree to which contemporary riparian environments that are the focus of conservation and sites of libidinal investment for river-focused environmentalists are not simply given but, in fact, bear the marks of racial exclusion that articulate the landscapes through which they flow. Political and academic intervention into the uneven distribution of toxic flows in metro Atlanta needs to draw on the resources of EJ. But each of these approaches would be improved through more sustained recognition of contemporary racial segregation of Atlanta in terms of a biopolitical state for which race is an essential component of its powers to foster life, in part through the management

of the environmental conditions of populations, but at the same time to expose some lives to more death. The production of racial exclusions through uneven exposures to hazardous watersheds is part of a biopolitical exception through which the sovereign power to make die is reclaimed as "indirect murder." The practices of governmentality through which watersheds become legible and calculable spaces of political investment are also modes of subject formation haunted by deeply colonial and deeply racial presences of social natures. Only through a sustained engagement with the ontological hydraulics trafficking between race, nature, and the state can we unpack the bodily sites of watershed and EJ movement politics to trace the constitution of power through the territorialization of the South River Watershed by means of the legal, scientific, and political technologies of the Clean Water Act.

As neoliberal capitalism continues to reinvent itself, expanding in scale and scope, the mixings of bodies and powers materialized by these confluences are continually reanimated through violent turbulence, which violence is itself obscured by the turbidity of social orderings that depend upon naturalized distinctions between race, nature, and the state. In the last chapter, I examined several ways of understanding the Altamaha as fluvial technology, and this chapter has shown how riparian whiteness, the whiteness of river and watershed activists is itself also a technology, what Agrawal (2005) examines as environmentality, and similar also to Saldanha's (2007) analysis of whiteness in the Goa trance scene in India. In this chapter I have argued that riparian whiteness is itself the most important barrier to the inclusion of black people in the governance of rivers and watersheds. In the next chapter, I examine the efforts of the South River Watershed Alliance to confront degradations of South River that disproportionately expose black people to pollution in Atlanta, Georgia.

CHAPTER 6: HYDRAULICS OF THE RACIAL STATE

6.1 Confronting Degradations of South River in Atlanta

With the intention of examining environmental justice organizing with a concern for the racial state, this chapter focuses on the Altamaha's headwaters in metropolitan Atlanta. The key point of this chapter is that diagramming the territory of biopolitics as assemblages of race-nature-state helps to understand improvisational strategies used to confront environmental racism in the context of the racial state. Building on the examination of the Altamaha as fluvial technology in Chapter 4 and riparian whiteness in Chapter 5, the chapter presents empirical evidence and analyses of specific forms of environmental racism in the upper watershed of Atlanta, Georgia's South River—a highly degraded river whose history as a crucial component of Atlanta's racialized urban metabolism runs more than a century deep (Echols 2015; EPA 2010).

Since the early 20th century, South River's flood pulses have carried large volumes of untreated wastewater from Atlanta's combined sewage and stormwater systems through majority black neighborhoods in southeastern Atlanta (EPA 1998a, 1998b). The most distant headwater of the lower Altamaha's highly-valued riparian environments and estuary, South River rises from a hazardous waste site in the heart of the city, before pulsing, with at least twelve regulated substances known to pose threats to human health (EPD 1994). For more than 60 miles, flood pulses through South River, one of the most "impaired" rivers in Georgia, communicate polychlorinated biphenyls (PCBs) and 11 other dangerous substances from long standing industrial waste sites into riparian neighborhoods south of Atlanta's stark color line. South River

also has high levels of fecal coliform resulting from frequent sewage overflows in the city of Atlanta's and DeKalb County's wastewater systems, which until remediation from recent consent decrees, illegally released hundreds of millions of gallons of raw sewage in up to one hundred spill events annually. Bullard et al (1999) demonstrate that CSOs across the U.S. are more likely to impact predominantly African-American neighborhoods, and federal consent decrees in Atlanta and DeKalb County have demonstrated this is true in Atlanta. Because of these trenchant and longstanding degradations, the entire 60-mile course of South River is listed as unsafe in accordance with section 303(d) of the Clean Water Act (EPD 2012).

These highly "impacted" upper headwaters of the Altamaha also coincide with one of the largest and fastest growing populations of African Americans living in low diversity suburbs in the U.S. (Dawkins 2004; Kromm 2011; Lloyd 2012; Sullivan 2012; Pfeiffer 2012; Howell and Timberlake 2014). Investments in conservation on the lower Altamaha typically depend upon a valorization of these environments that rhetorically benefits from the erasure of these headwaters (Figure 6.1). Paralleling if not exemplifying national trends (Pulido 2015, 2016), research on Atlanta has documented racial disparities in who benefits from environmental regulation (Gomez et al 2011), racially correlated patterns of pollution (Deganian and Thompson 2012), and racially uneven access to green space, including rivers and streams (Dai 2011).

In Georgia's implementation of the Clean Water Act, the South River, which rises in the urban core of Atlanta (Figure. 6.2), has been designated an "impaired" stream because it contains unsafe levels of fecal coliforms and hazardous amounts of PCBs, according to standards set by the EPA and samples conducted by Georgia's Environmental Protection Division (EPD). Environmental injustice in the South River watershed persists despite regulations and knowledge of the flows of particular chemicals and bacteria. The chemicals borne in sediments suspended

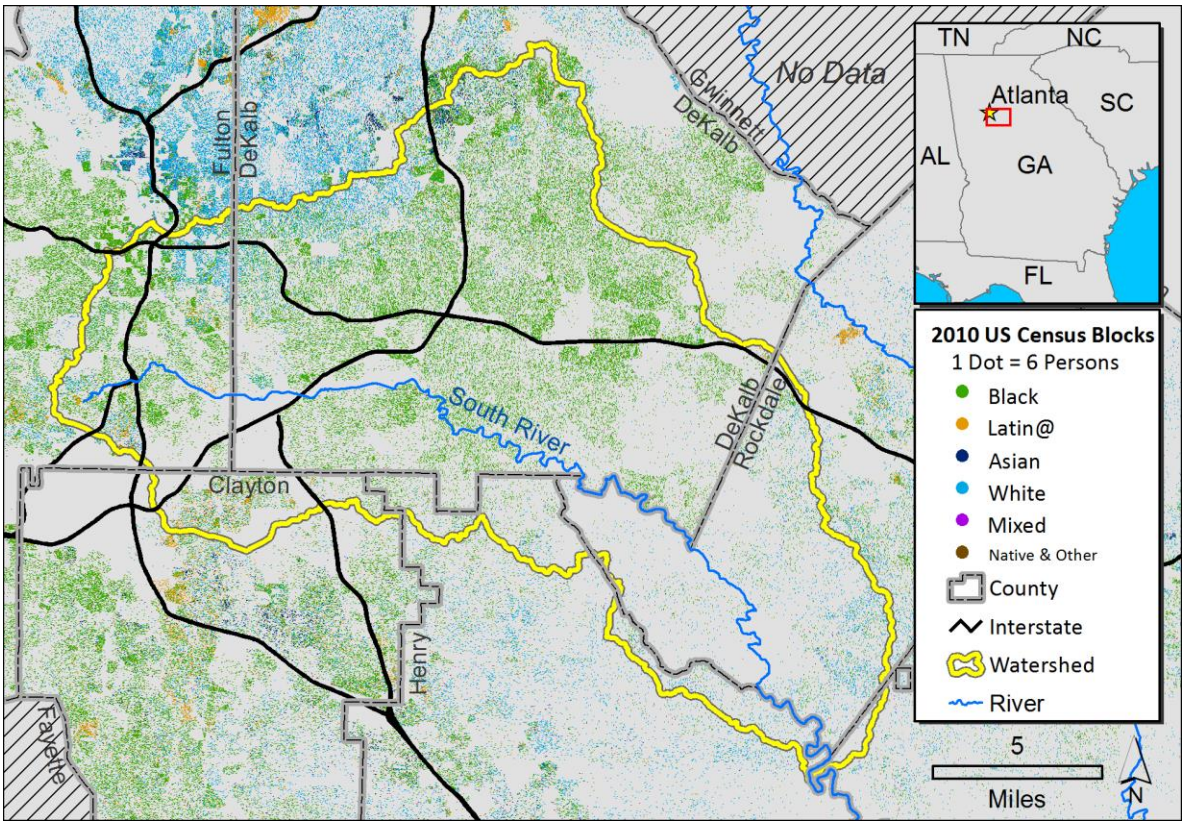

Figure 6.1: Dot Density Map of Race in Upper South River Watershed

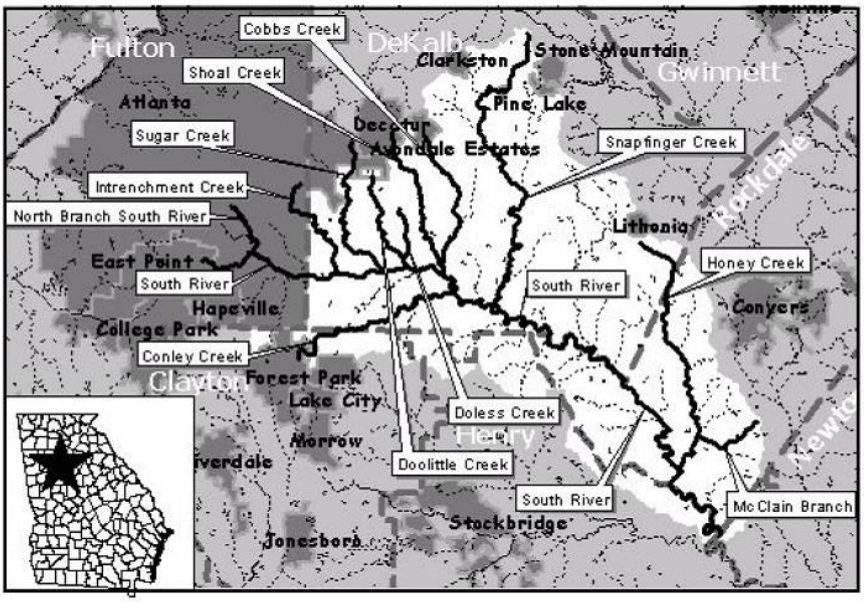

Figure 6.2: The South River Watershed Alliance Map of Principal Tributary Streams

by flood pulses of South River include polychlorinated biphenyls, a regulated group of some 200 compounds out of 60 million registered by the Chemical Abstracts Service of the American Chemical Society that are classified by the EPA as probable human carcinogens in Group B (EPA 1999). PCBs in South River are attributed to long-standing industrial waste sites in the city of Atlanta and the sedimentation of these chemicals in beds of streams. High levels of fecal coliform in South River are attributed to urban runoff and frequent sewage overflows from DeKalb County as well as the City of Atlanta. Fecal coliforms, "a subset of total coliform bacteria that are more fecal-specific in origin" that "indicate the possible presence of pathogenic (disease-causing) bacteria, viruses, and protozoans that also live in human and animal digestive systems. Therefore, their presence in streams suggests that pathogenic microorganisms might also be present and that swimming and eating shellfish might be a health risk" (EPD 2012). The fecal coliform and hazardous substances that flow in South River are technological entities whose meanings and capacities for affect are constituted in their relations to the human body and the cultures of knowledge and expertise that render such an object as a site of political investment and calculation.

These regulatory technologies for making toxicity legible, calculable, and determining the degree of permissible exposure and ordering the management of such exposures are implemented through the Clean Water Act, which requires each state to monitor and report the quality of its waters in 303(d) and 305(b) lists of impaired streams that do not meet standards for "designated uses" (EPD 2012). These technologies are central components in the calculative regime of governmentality that produces the legibility of hazards in the South River. But these technologies for regulation are also implicated in a set of processes whereby race very often determines whether or not the legibility of hazards amounts to rectification of the problem.

While the CWA standards and EPD regulations have resulted in a judicially administered consent decrees delimiting a program for Atlanta and DeKalb County's remediation of the stream's "impaired" flows, South River continues to expose people to environmental hazards. What could be an important amenity for these suburbs, as is the Chattahoochee River in white flight suburbs north of Atlanta (Kruse 2007), South River instead remains unsuitable for swimming or fishing. Environmental justice research offers various means of accounting for these exposures of racial bodies to dangerous hybrid techno-ecological ones like PCBs or to hazardous human *presences* in *natural* bodies like streams in the shape of fecal coliforms. The urban development of Atlanta, as in Pulido's (2000) analysis of Los Angeles, to the racialized processes of segregation and white flight is required to understand the environmental racism at work in the South River watershed. Race and nature studies offer ways to understand the conditions which shaped this meeting we refer to as exposure of racial bodies to hazardous ones, and for questioning the degree to which race was already woven into the fabric of the bodies meeting in this contact. However, research drawing upon both of these frameworks would further need to employ a biopolitical concept of state racism to interrogate the manner in which racial subjectivities are themselves in movement in the practices of governmentality that draw organizing for environmental justice into the fold of a watershed movement that itself cultivates white subjectivities and produces legibilities of landscape that are exclusionary.

The South River Watershed Alliance (SRWA) formed out of efforts in the late 1990s by African-American homeowners to confront sewage overflows that negatively impacted property values in their neighborhoods. As one African-American homeowner explained, homeowner associations of gated affluent neighborhoods encouraged residents with property fronting the river to plant hedges to hide the fact that the neighborhood was bordered by the river. In May

2011, an SRWA request to intervene in the consent decree process was granted and the community watershed group became the citizen's "seat at the table" to ensure that the County's plan to eliminate sewage overflows by 2020 will be fulfilled according to the mandate reached in agreement with the EPA and EPD.

People of color organizing in a racially diverse coalition political responses to pollution in South River have come to understand a growing institutionalization of environmental justice (EJ) through the EPA as "just another ploy" that "is never going to change anything." After organizing with a narrative and strategic framework of EJ for years, since 2013 leaders have increasingly come to think of identifying as an "EJ community" in negotiating with government agencies as a kind of political trap. More than just a "dead end," state recognition of EJ and negotiation with racially diverse environmental organizations, according to leaders interviewed for this research, amounts to a series of "captures" or "containments" of the potentials of environmental justice movement. My fieldwork with SRWA suggests that the increasingly institutionalization of environmental justice amounts to a politics of recognition that foreclose radical potentials of the environmental justice movement.

Despite recognition of environmental injustices occasioned by the flows of toxins and human waste in South River, organizers working to diminish the disproportionate exposure of black people to environmental hazards in this watershed have rejected environmental justice frameworks in their struggle, employing instead discourses of renewal, redemption, and reconnection. Building on geographies of environmental justice, this chapter considers this strategy as an innovative improvisation against the racial state (Pulido 2015, 2016; Kurtz 2009). The concept of biopolitics provides some insight into understanding the assemblage of race-nature-state situating efforts to combat environmental racism along South River. But a theory

and practice of tracing the racial assemblages of territorialization and a more elaborate theory of territory in general is necessary for this analysis.

6.2 What you really know about the Dirty South?

South River rises from a brownfield crisscrossed by railroad lines in the heart of Atlanta, Georgia. The state's Department of Natural Resources designates this soggy height of land just north of the world's busiest airport, Hartsfield-Jackson International. It is first "daylighted"—as opposed to running through underground culverts—across the street from a brownfield known as the "Tift Site" in East Point, an inner suburb of Atlanta. The Tift Site is listed by the Georgia DNR as a Class 1 hazardous waste site, the most toxic designation, reserved for "sites that have resulted in known human exposure to regulated substances, that have sources of continuing releases, or that are causing serious environmental problems" (EPD 2014).

The DNR has stated that the site requires remediation for human and environmental health, and has created a remediation plan (EPD 2014). Because the EPD has a remediation plan for the Tift site, the brownfield has been denied status as a federal "superfund site" under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), which would make it eligible for funding administered by the EPA to clean up the worst hazardous waste sites in the country (Holifield 2007). According to organizers that I have interviewed, if the Tift Site was designated as a federal superfund site, property owners would have to pay into the national super fund, but under Georgia law, the owners do not have to pay unless they are currently capitalizing on the property. The Tift family that owns the majority of the site became one of Georgia's most prosperous and powerful families during the plantation and sharecropping agriculture eras of Georgia history (Fair 2010). The Tifts do not have to pay for remediation of the hazardous waste that pulses down South River in "flashy" high water each time it rains.

Because the Georgia hazardous waste remediation fund is empty, the state remediation plan on the books will likely never be implemented, according to environmental activists and scientists that I interviewed.

Early one April morning in 2014, I observed a group of racially diverse environmental advocates conducting a toxic tour of these headwaters of South River. Abutting the former industrial site is an East Point Homes public housing complex known as Martel Homes. The Martel Homes housing project was highlighted, along with several others, in the 1996 rap song "What You Really Know about the Dirty South?" by Goodie Mob: "Martel Homes was my claim to fame." The song, which describes coming of age in Atlanta and the violence drug trafficking in the early 90s, is credited with stabling the term "Dirty South" as a moniker for Southeastern rap music. The question of the title and refrain of Goodie Mob's song is rhetorical, and functions with other lines as a warning to deter Miami and New York drug traffickers from operating in Atlanta. But references to structural racism and "dirty Bill Clinton" in the song suggest a critique of government policies that pay lip service to inequalities like the widening racial wealth gap without actually rectifying inequities.

In a similar register, it makes sense to ask what people "really know about the dirty South" River. What do people living in Martel Homes really know about the pollution in the soil and ground water adjacent to their housing? The predominantly African-American residents of the 150 housing units in Martel Homes have not been notified by the state about the hazardous wastes in the soil and groundwater adjacent to the Housing Authority property; no signs have been posted; and there are no fences separating the playgrounds from the brownfields. If not for Georgia's unfunded remediation plan, EPA protocols for a super fund site would require notification of residents, fencing, and remediation. The "dirty" South River legally begins where

remarkably bright blue water emerges from a culvert across the street from the main entrance to Martel Homes. As one of our tour leaders explained, the strikingly unnatural blue color owes to flocculent from buried debris of a century-old, retired cotton processing facility on the brownfield, one of the sources of toxic flows through the watershed. Toxins from processing cotton as the Georgia plantation economy waned and African Americans moved in large numbers from rural areas into cities like Atlanta continue to do harm to black people living in the South River watershed through the slow, lingering violence of environmental racism. As described in the SRWA newsletter (Figure 6.3):

> Standing on the shoulder of busy Norman Berry Drive the group gazes down at the pool of milky blue water and white residue that covered the stream bottom and sides of the stream bank. It was obvious that something was terribly wrong. This was the second stop of the morning, the first was a vista at the top of South Martin Street a few hundred feet upstream of where we now stood. From the South Martin Street location a view of the "Tift Site" was possible. The actual site has been relinquished to the trees, grass, shrub brush, and rubbish piles that have appeared over the intervening decades. Although the buildings are gone, the twenty plus people that made the trip this morning use their South River headwaters imagination to recreate images of the cotton processing mills and the lagoons used to dispose of contaminated cotton waste. Staring down at the discolored water, one could only ponder the magnitude of the problem and when it would finally be fixed.

Figure 6.3: Toxic Tour of South River Headwaters
(Photos from SRWA Newsletter)

What do people really know about the dirty south river? The people most proximate to these toxic legacies have not been informed because of the regulatory conundrum that prevents the Tift site from receiving federal funds and allows it to linger with an unfunded Georgia remediation plan. The Tift site serves as a poignant example of how even when the government knows about environmental hazards, such hazards often remain unaddressed for people of color (Pulido 2016). Another instance on South River of unknowing communities exposed to hazards because of government inaction despite regulatory knowledge occurred in the summer of 2010, when suburban residents of south DeKalb County began swimming in the South River at Panola Shoals, a site that a long-term resident I interviewed remembers persistently foaming so high with the churn of sewage in the 1980s that sometimes you could not safely drive across the bridge over the shoals.. That summer, the opening of a multi-use trail along the river meant that a new parking lot made this spot on the river more apparent and more accessible to residents in the area. It took a little while but eventually someone who knew about pollution in the river notified authorities that people were using the new parking lot to access the shoals at this site for swimming. “After weeks of people swimming and frolicking in the polluted South River, DeKalb County government finally pulled the plug on recreational use of the river,” and signs indicating that the water was unsafe were put up at the spot where you could walk down to the shoals from the parking lot (Ffrench-Parker 2010). But the public notice was also a threat. When African-American residents of one of the nation’s largest affluent African-American suburbs, the county government posted signs threatening them with prosecution (Figure 6.4).

6.3 Recreation as Civil Disobedience

Early in my fieldwork, I was invited to get involved and research the work of South River Watershed Alliance (SRWA), based in south DeKalb County, the only watershed group led by

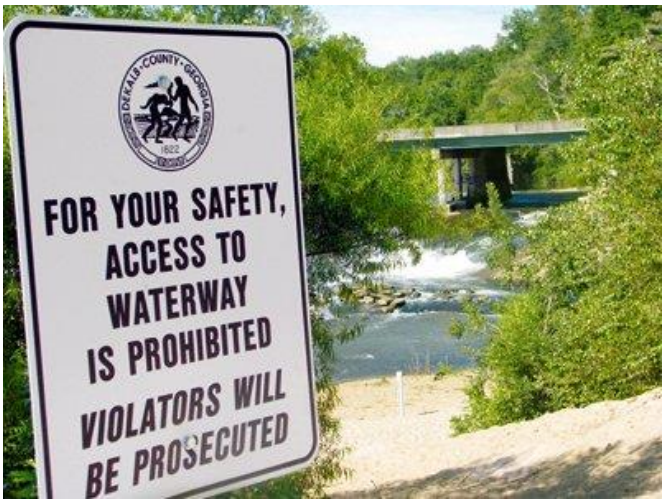

Figure 6.4: "Access to Nasty South River Denied"
(Photos From CrossRoadsNews, July010)

people of color in the Altamaha Basin and one of the few racially diverse watershed organizations in the U.S. (Moran 2010). I formed a research partnership with SRWA almost immediately following my 2012 presentation to Georgia's river and watershed community on "What's Riparian got to do with Race?" (Milligan 2012). While this presentation garnered me the opportunity to speak with many white environmentalists as discussed in the previous chapter, the only woman of color I had identified in my field notes among the participants at the event, an organizer from SRWA, was most keen to follow up with me on thinking through riparian

environments and race. Connecting at that 2012 meeting, I became and remain very involved as a volunteer and researcher with SRWA. The efforts and organizing strategies of SRWA are exceptional in the Altamaha Basin and nationally.

Despite the wealth of support for watershed organizing, until recent years environmental justice engagement in watershed projects including stream restoration has been very rare (Moran 2010). SRWA began by framing the organization's mission as environmental justice drawing explicitly on environmental justice scholar Sharon Moran (2010), and her work as a human geographer who studies stream restoration. The first SRWA event I conducted fieldwork at was a workshop called "River of Opportunity: Community-led Restoration of South River and the Pursuit of Environmental Justice." The purpose of the workshop was to "generate dialogue about current and historical disregard of urban waterways, streams, creeks and rivers in general and South River specifically, the lack of river restoration efforts in communities of color, and offer strategies on how to engage affected communities." The workshop included several presentations by a panel including Sharon Moran; David Deganian, staff attorney with Greenlaw, Georgia's primary environmental and public interest law firm; and Johnny Waits, a community-based historian and curator of Flat Rock Archives, which document the history of Atlanta's oldest African-American community (Figure 6.5).

I have conducted fieldwork on 12 paddle trips on South River. While participants in these trips are racially diverse, not only African-American, compared to recreational outings conducted by mainstream organizations in the basin, these trips are remarkably different in terms of race. With "scholarships" from the Arabia Mountain National Heritage Area, SRWA has recruited many "first time paddlers," typically African-Americans to experience the river from the perspective of recreational boating and ecological observation or environmental education.

The first two of these trips of about 30 people paddling a few miles of the South River were structurally similar to events that I have participated in with other watershed groups around the state, but very different in other ways. Typically, at these "getting out there" events held by mainstream organizations, the majority of participants are keen naturalists, enthusiastic paddlers, or experienced watershed monitors familiar with riparian environments, if not some combination of the three. The first two SRWA paddles were noticeably frantic at the start, with lots of concerned faces and reasonable doubts about safety, and, unfortunately, punctuated by frequent spills, ruined cell phones and camera equipment, and a general sense of wariness that was amplified by the fact that the state and federal authorities say that the South River is not safe for human contact due to high levels of fecal coliform resulting from frequent SSOs. Most noticeably different though was the fact that roughly half of the participants were African-American on each trip.

The third trip, however, was co-sponsored by a state-wide group that also organizes an annual week long paddle of roughly 100 miles down one of Georgia's rivers, which meant that nearly three times as many people came out and many of them traveled a significant distance. The experienced leadership of the Paddle Georgia organizers made the third trip more tightly organized at the launch site, but it also meant that newcomers to the "getting out there" watershed experience were greatly outnumbered by veterans whose cultivation of a watershed-self tended to regard this suburban stretch of river and its urban pollution with a measured—highly altered watersheds still contain exemplars of the impressive ecological diversity and productivity characteristic of riparian environments, as the official trip naturalist demonstrated—but remarkably frequent and vocal disdain.

Figure 6.5: Workshop Flier for "River of Opportunity: Community-led Restoration of South River and the Pursuit of Environmental Justice"

The concepts of environmental injustice and environmental racism often conjure stark and somewhat simplistic oppositions: impoverished racial minorities shouldering an unfair share of environmental hazards while affluent whites enjoy the privilege of less exposure. The course of South River through metro Atlanta limns a more differentiated picture of environmental racism. Flows of toxins and human waste in South River disproportionately risk harm to black

bodies, especially in low-income communities of Atlanta. But, a little further downstream, these flows also threaten the health and well-being of more affluent minorities. A comparison of white flight suburbs upstream of the city and its wastes along the Chattahoochee River to predominantly African-American suburbs in the South River watershed shows how environmental racism can also take the form of disproportionate financial violence: working and middle class African Americans in affluent suburbs of Atlanta tend to live in neighborhoods where property values have been diminished by proximity to a river that is more hazard and nuisance than amenity.

6.4 Improvising Against the Racial State in Middle-Class Black Suburbs

While cognitive images of U.S. cities often parallel a dualism George Clinton termed "Chocolate City, Vanilla Suburb" on Parliament's 1975 album, black suburbanization is a significant trend in U.S. cities dating back to the 1950s (Wiggins 2001, see also Denton and Massey 1993). Cashin (2001) notes that seven million black people moved to the suburbs between 1970 and 1995, a figure already rivaling the numbers of the Great Migration, which is often referred to as one of the largest demographic movements in American history (Kromm 2011). This suburban movement has continued in recent decades: more than half of black people in US metro areas now live in suburbs, steadily up to 51% in 2010 from 44% in 2000 and 37% in 1990 (Frey 2011a, Pfeiffer 2012).

Some studies have examined the continuing suburbanization and exurbanization of minorities as driven, in part, by the displacement of poverty from central cities (Howell and Timberlake 2013), highlighting the roles of housing supply, availability and location of jobs (Timberlake et al 2010), as well as the dismantling of inner city housing projects in key metropolitan areas (Keating 2001). However, a significant part of this demographic shift has

been the establishment of affluent, middle-class black suburbs, which became a focus of research in the late 1990s (Lacy 2002, 2004, 2007; Cashin 2001). The majority of scholarship on affluent, black suburbs has focused on suburbs of Washington, D.C. located in Prince George's County, Maryland, although this literature often refers to what has been known as the second largest black suburb, and one of the most affluent: South DeKalb County.

In the 1970s and 1980s, national economic restructuring coupled with the peaking of baby boomers in working-age cohort led to a reversal of demographic trends in the U.S. South, including a reversal of black migration trends (Pandit 1997). According to the Brookings Institution, "Three quarters of black population gains from 2000 to 2010 occurred in the South" (Frey 2011b). And, Atlanta has had the largest increase in black population for the past two decades of any metropolitan area (Kromm 2011, Frey 2011b). In this sense, Atlanta is both superlative and exemplary; superlative in that it has the most growth in black population, but exemplary in that black people are moving to the South and to the suburbs of large metropolitan areas across the country. So Atlanta's suburban population growth exemplifies national trends. Much of the increase in Atlanta's population is attributed to the 'Black Mecca' phenomenon of educated, middle-class African-Americans moving to the city, particularly its suburbs (Lloyd 2012).

This remarkable population growth suggests that the area known as "south DeKalb" may have become the largest affluent, predominantly black suburb in the country, though I cannot find literature drawing on 2010 census data that numerically compares similar suburbs in Prince George's County with DeKalb. Such a comparison seems relevant given the broadly stated, if somewhat underspecified, claims to the effect that "Atlanta is the emerging capital of black America, arguably more relevant for understanding the future of African Americans than older

industrial strongholds like Detroit or even Chicago" (Lloyd 2012: 485). As of 2010, Atlanta surpassed Chicago as the city with the second largest black population, behind New York (Frey 2011b). The black population of Atlanta grew by nearly half a million between 2000 and 2010 (Lloyd 2012), yet most references to affluent black suburbs refer to Lacy (2007), who numerically ranks affluent, black suburbs in south DeKalb County second only to DC suburbs in Prince George's County, Maryland, a region that has seen remarkably less black population growth than southern cities including Atlanta.

There are many ways to characterize segregation and diversity. Depending on what scales or indices are used, different representations of Atlanta's population can emerge. Holloway et al (2012) and Wright et al (2014) demonstrate how segregation and diversity are not best understood as either/or but as both/and, especially when considered at different scales. Because affluent black suburbs are contiguous with concentrations of black poverty, research indexing segregation in Atlanta tends to visually lump together affluent suburbs with inner-city spaces of majority-black, low diversity populations (e.g., Dawkins 2004; Figure 6.6). However, this phenomenon tends to conflate particularly distinct urban experiences and populations, and the focus of Atlanta studies on persistent problems of inner-city poverty and their racial correlations, sometimes obscures the large relatively affluent African-American population in Atlanta suburbs.

Fieldwork with the SRWA since the 2011 environmental justice workshop with Sharon Moran (2010) has documented an innovative and improvisational strategy in environmental justice organizing in Atlanta. My fieldwork with the SRWA has yielded insights into how persistent violation of NPDES permits result in legal sanction beyond fines. SRWA is party to a

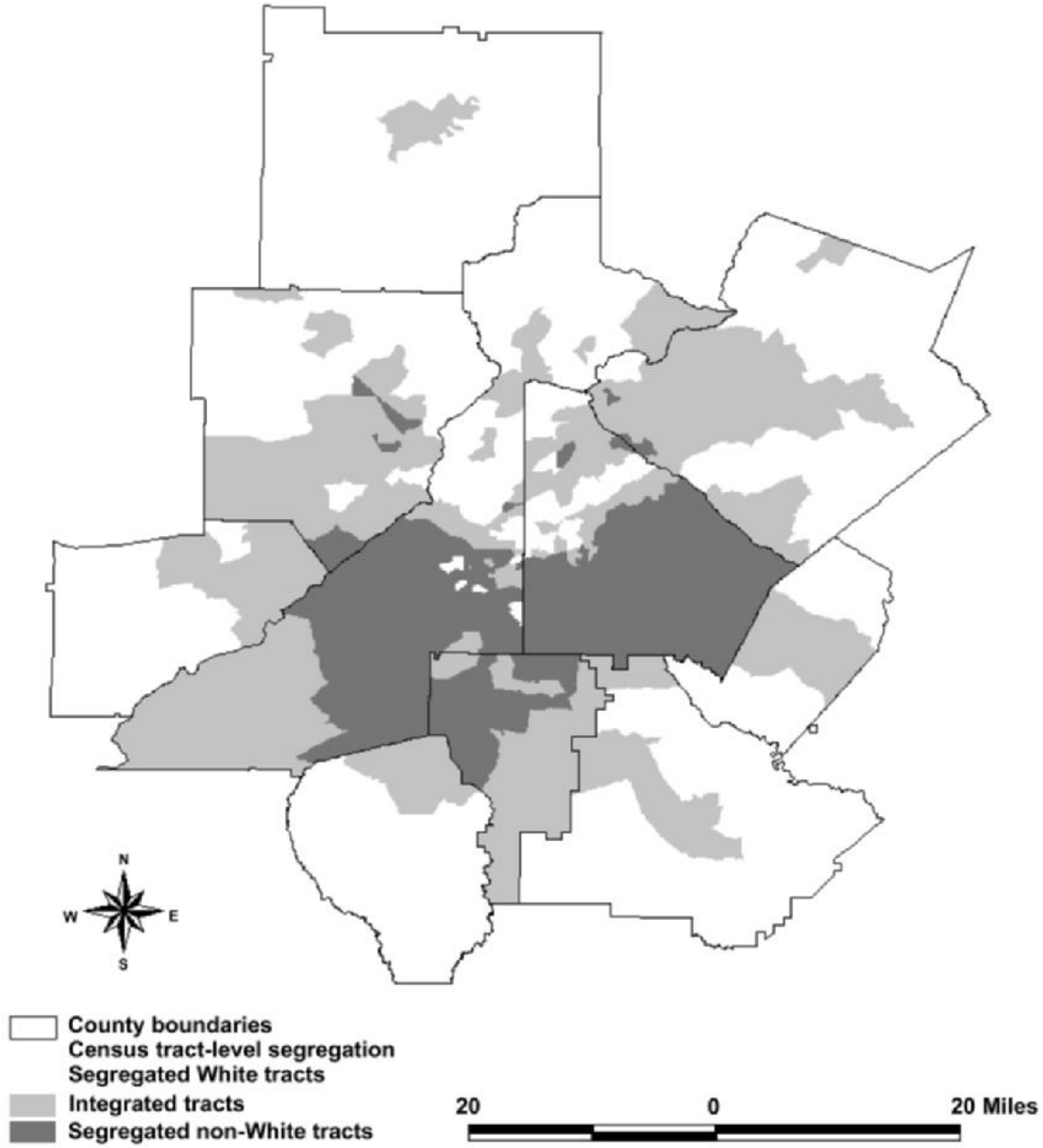

Figure 6.6: From Dawkins (2004); Segregation in Atlanta

consent decree process administered by a federal judge to bring DeKalb County into compliance with federal law.

The EPA and Georgia's EPD are litigants in the case, and SRWA is part of the oversight of a twenty year plan to reduce and revers the impacts of decades of sanitary sewage overflows

from DeKalb County's waste water system. SRWA is the only watershed group with an explicit environmental justice agenda in the Altamaha Basin is the only community organization involved in the implementation of a 2010 consent decree requiring DeKalb county to eliminate sanitary sewage overflows (SSOs).

In May 2011, an SRWA request to intervene in the consent decree process was granted and the community watershed group became the citizen's "seat at the table" to ensure that the County's plan to eliminate SSOs by 2020 will be fulfilled in accordance with the mandate reached in agreement with the EPA and EPD. SRWA is one of the few African-American led community-based watershed organizations, and it has been honored in Georgia and nationally for many success. Despite this success and calls for more environmental justice engagement in watershed projects including stream restoration (Moran 2010), SRWA has moved steadily away from an "environmental justice" framework for organizing.

As a volunteer on paddle trips on the South River introducing SRWA members and organizers to the river from the perspective of recreational boating and ecological observation, I have had the opportunity to see differences between this organization and predominantly white organizations. The first two of these trips of about 30 people paddling a few miles of the South River were structurally similar to events that I have participated in with other watershed groups around the state, but very different in other ways. Typically, at these "getting out there" events the majority of participants are keen naturalists, enthusiastic paddlers, or experienced watershed monitors familiar with riparian environments, if not some combination of the three. The first two SRWA paddles were noticeably frantic at the start, with lots of concerned faces and reasonable doubts about safety, and, unfortunately, punctuated by frequent spills, ruined cell phones and camera equipment, and a general sense of wariness that was amplified by the fact that the state

and federal authorities say that the South River is not safe for human contact due to high levels of fecal coliform resulting from frequent SSOs. Most noticeably different though was the fact that roughly half of the participants were African-American on each trip. The third trip, however, was co-sponsored by a state-wide group that also organizes an annual week long paddle of roughly 100 miles down one of Georgia's rivers, which meant that nearly three times as many people came out and many of them traveled a significant distance. The experienced leadership of the Paddle Georgia organizers made the third trip more tightly organized at the launch site, but it also meant that newcomers to the "getting out there" watershed experience were greatly outnumbered by veterans whose cultivation of a watershed-self tended to regard this suburban stretch of river and its urban pollution with a measured—highly altered watersheds still contain exemplars of the impressive ecological diversity and productivity characteristic of riparian environments, as the official trip naturalist demonstrated—but remarkably frequent and vocal disdain.

"This is America!" one key organizer in the South River Watershed Alliance told me as we debriefed following an event:

> This is Atlanta, Georgia. Black people aren't going to get a fair deal. We are going to get the worst deal, and that's not going to change…The folks at the EPA just want to tie us up in conference calls, but it's never going to amount to nothing.

My interviews and ethnography point to a politics of recognition at the EPA that does more to sustain environmental racism than to rectify injustices. SRWA organizers, many of them veterans of environmental justice organizing in the 90s, have rejected EJ as narrative and conceptual tool to engage the state, and have developed other strategies to confront the disproportionate exposure to river-borne hazards for minority communities.

South River EJ strategy recognizes the racial state, but also recognizes the aporia of asking the state to address what is basically a compulsive and intrinsic property of neoliberal governance—the systematic exposure of racial bodies to hazardous environmental bodies. My research with SRWA demonstrates the importance of recognizing the mutual imbrication of governmentality in the EPA's partial devolution of watershed management to local coalitions of citizen-monitors and its biopolitical exception of racialized communities from the protections of the CWA through inadequately funded state and federal-level agencies.

If we take Foucault's concepts of biopolitics and governmentality seriously, the preponderance of racial environmental injustice in the U.S. makes sense. The mode of governance that fosters life of the population, only to designate racial groups who fall outside the realm of desirable population can be seen to "govern" the subtle but pervasive processes that distribute exposure to environmental hazards unevenly across a racialized population. Pulido emphasizes these layered and embedded processes of uneven distribution the slow racial violence of environmental injustice, to which we have become inured and calloused about the realities of racially uneven exposures and death (Pulido 2014). that the institutionalization of environmental justice through the EPA has happened along with what I think of as a neoliberal and biopolitical transition in environmental governance of rivers and watersheds—a transition from state monitoring and technological intervention to the cultivation of watershed subjects and civic watershed organizing.

6.5 Summary

Reworking biopolitics through a concept of racial assemblages in the production of territory suggests means to address the displacement of race from the heart of urban political ecological analysis, to bridge the insightful geographic analysis of political ecologists with the

critical scholarship of environmental justice, and to braid the insights of these fields with the findings of scholars working on race, nature, historical geographies of whiteness, black geographies, and a broader cultural politics of difference. Revising biopolitics with a concern for territory helps to understand and confront the deep histories of slow violence imparted by environmental racism, enfleshed as these histories and wounds are in our bodies and cities (Weheliye 2014), where more or less death by exposure or protection to environmental violence lies at the heart of the postcolonial *aporia* of U.S. geographies (Lund and Wainwright 2008).

CHAPTER 7: DISTRIBUTARY

7.1 The Altamaha as Assemblage of Race-Nature-State

This research focus emerges from my long history of involvement in environmental organizations, particularly more than ten years of advocacy with river and watershed groups in Georgia, and my commitment to initiatives to address racial inequity and social justice through teaching, research, and public engagement. In what manner can confluences of race and nature, including the disavowal of racial components of environmental issues, be shown to animate practices of environmental governance?

As an ecologist and river advocate that I interviewed for this research explained, the flood pulse concept modifies the "river continuum concept" that treats river systems "holistically, and describes a relatively smooth transition from headwater to large river." The "flood pulse concept," according to this river advocate, helps to explain the unique value of the Altamaha, because by conceiving "the river and the places within it as products of the catchment (locally and globally)" the river is not simply a single place, but a diversity of sites with differential modes of connection to the dynamic rise and fall of flows of surface water that make the river. Eventually pushing into tidal marshes of the Georgia bight between St. Simon's and Sapelo Island, the flood pulses of this hydraulic system rhythmically sustain highly valued natural environments in the riparian space of the Altamaha's fluvial connections. They are the also the natural environments where I have spent the most time and studied natural history most closely. While effective for motivating volunteers, fostering white engagement, raising awareness and funds for conservation, white river advocates' conception of the Altamaha River as a hydrologic entity sustaining diverse, wild places of pure, unadulterated flows relies upon a

form of epistemic violence. Picturing and investing in the conservation of such pristine environments of the Altamaha requires an erasure, a severing of the main stem and principal tributaries from their urban headwaters in Athens and Atlanta, Georgia. I argue with the empirical findings of this research that this type of epistemic violence is fatally coupled with the violence of environmental racism, disparities in who benefits from environmental governance, and exclusions of people of color from environmental arenas.

In researching the confluences of race and nature in the Altamaha, I have diffracted environmental concepts like *flood pulse* and *riparian* through an empirical engagement with the materiality of race. These couplings and confluences are materialized with riparian whiteness. The fluvial technology of the Altamaha as a territorial assemblages of race-nature-state enrolls citizen-science and community-based activism as elements of environmental governmentality that abandons people of color to more death. but as I have shown in this dissertation, the very technologies for seeing, knowing, connecting with, and regulating rivers are also founded on symptomatic silences and constitutive erasures of confluences of race and nature. This dissertation has examined these confluences of race and nature as components of a riparian assemblage of race-nature-state.

Borrowing from but also challenging the Foucauldian concepts of biopolitics and governmentality, I hope to have shown the need for more attention to the problem of territory for biopolitics. My research supports an understanding of contemporary environmental governance of surface waters and their riparian environments as biopolitical in that they introduce mechanisms to sustain and exacerbate racial differentiation of who benefits from environmental regulation. A genealogy of the Altamaha helps to understand how the whiteness of river advocates and environmentalists is more than just the privilege of less exposure to environmental

harm and inclusion in environmental governance. Riparian whiteness is a historically and geographically produced feature of material reality, and the materialization of this modality of whiteness bears important traces of colonial history.

The fight for environmental justice, according to the argument presented in this dissertation, is strengthened by an awareness of historical geographies producing riparian assemblages of race-nature-state. In contrast to most academic work on environmental justice and raising issues that are less central to these movements, the race, nature, and cultural politics of difference approach begins from a position of challenging the neutral facts of the biophysical environment wherein the materialities of environmental injustices lie. Bringing these challenges to the neutral facts of the environment offers both a potential opportunity and a possible disruption for the environmental justice paradigm: on the one hand opening these politics to possibilities of a broader critique and suggesting both quantitative and qualitative expansion of sites for political intervention, but on the other hand undermining the basis of claims of injustice by destabilizing already difficult legal and policy claims to the fact of uneven distribution of toxins and other environmental hazards.

Rather than asking the state for recognition, diagramming biopolitical territories through a political ecology of race-nature-state helps to understand effective strategies for combatting environmental racism in Atlanta that refuse state recognition of "EJ communities." Research on race and nature has shown both "that articulations of nature and difference are central to the formation of landscapes and the distribution of resources" and that "cultural assemblages of nature and difference are … formative of subjects, sentiments, and regimes of rule" (Kosek 2006, 21). Asking how riparian environments become meaningful through contingent sets of discourse and practice highlights the role of nature in sustaining relations of racial inequity.

There is considerable work on the confluences of race and nature in Canada (Braun 2002, Baldwin 2009, Baldwin, Cameron, and Kobayashi 2011). Similar work has been undertaken in the western U.S., such as Jake Kosek's (2006) work on these entanglements in the political life of forests in northern New Mexico. However, research of this kind is notably lacking in the southeastern U.S. Engaging with a growing number of scholars in geography, anthropology, and American studies who study the "cultural politics of race and nature" (Moore, Kosek, and Pandian 2003, 6), my fieldwork with river and watershed conservationists was designed and conducted from the position that the "performative ties that bind categories of 'nature' and 'race' in the exercise of white normativity and power" in the Altamaha Basin (Baldwin, Cameron, and Kobayashi 2011, 3). By examining the "deep history" of territorial assemblages of race-nature-state, this project demonstrates productive means of bridging environmental justice scholarship in the Southeast with scholarship on race, nature, and the historical geographies of whiteness that have focused more often on the western U.S. and Canada.

In recent years, political ecologists have increasingly turned to the concept of biopolitics to develop an analysis of social natures capable of accounting for the deeply racial aspects of most environmental struggles. Towards the conclusion of her book on the global urban water crisis, Karen Bakker (2010) makes a distinction between biopolitics and conventional politics. Conventional politics, for Bakker, refers to "contested relationships of power and authority" (221) while biopolitics refers to specific efforts of modern governments "to secure the health and productivity of the population" (190). This distinction stems from Foucault's elucidation of what he termed governmentality, a form of state "rationality" that centered not on the disciplinary regulation of bodies and resources but on the fostering of the life and wellbeing of the population by operating on natural environments. The constitution and application of biopower, according to

Foucault, is directed, not necessarily less at disciplining the body, but at least more at what Foucault's treatment assumes as given: the natural environments of the territories of biopolitics. One purpose of this dissertation is to argue that it is worthwhile for political ecologists to take up the Foucault's inadequate elaboration of territory head on (Braun 2000, Elden 2007). While biopolitics offers a useful framework for understanding the imbrications of state, (racial) subject, and environment underwriting neoliberal environmentalism, it provides markedly less access to the materiality of riparian environments and fluvial dynamics. Indeed, as Agnew (2005) and Elden (2014) argue, territory has often been given insufficient concern in political and social theories of power.

This project engaged environmental organizing around rivers and watersheds in the southeastern U.S. state of Georgia in order to examine the political materiality of a river system as well as particular materializations of race that accrue in the viscosities of riparian whiteness. Drawing on over four years of participatory ethnographic engagement with environmental activists working on watersheds and rivers in the Altamaha River System, I demonstrated how the materiality of watersheds and the materiality of whiteness are significantly bound up with one another under a regime of neoliberal governmentality. By querying the practices of environmental organizing around rivers and watersheds in the southeastern U.S. state of Georgia, I have endeavored to show how the political materiality of the Altamaha River System is a technological achievement, one that is coupled with particular materializations of race that accrue both in the viscosities of riparian whiteness and the erasures and exposures of blackness.

7.2 Nature and Difference

> I have tried to argue that a critical intimacy with deconstruction might help metropolitan feminist celebration of the female to acknowledge a responsibility toward the trace of the other, not to mention toward other struggles. That acknowledgement is as much a recovery as it is a loss of the wholly other. The excavation, retrieval, and celebration of the historical individual, the effort of bringing her within accessibility, is written within that double bind

> at which we begin. But a just world must entail normalization; the promise of justice must attend not only to the seduction of power, but also to the anguish that knowledge must suppress difference as well as différance, that a fully just world is impossible, forever deferred and different from our projections, the undecidable in the face of which we must risk the decision that we can hear the other.
>
> Gayatri Spivak, *A Critique of Postcolonial Reason* (1999)

Gayatri Spivak began the Antipode lecture at the 2012 annual meeting of the American Association of Geographers by wondering how her research and thought could be relevant to the disciplinary study of geography. In *A Critique of Postcolonial Reason,* Spivak's "double bind at which we must begin" is specifically referring to the situation of the "native informant"—"a name for that mark of expulsion from the name of Man"—in philosophy, literature, history, and culture (Spivak 1999: 6). Not only are the postcolonial feminist philosophical discussions of Spivak critical for geographical practice that aims toward justice, the idea of a double bind is invaluable for all manner of geographical inquiry, and especially given the discipline's historic roles in colonization and imperialism (Godleweska and Smith 1999, Spivak 1999). Joshua Lund and Joel Wainwright (2008) cultivate a variation of this double bind in an essay addressing the "aporia of postcolonial geography." One of postcolonial geography's "principal valences" is the manner in which space and race are mutually entangled in their becomings (142-143). In this mode of thought, embodiments, practices, and discourses of race are premised on permeated through spatial orderings of the earth. Put the other way around, we might say, the production of space, the nomos of the world, the partitioning of the earth occurs through spatial orderings dependent on the racialization of society in the formation of the *people* and the sovereign powers of the nation-state. The disciplinary binds of geography to colonialism trouble the starting point of geographical inquiry—*relations* between people and the earth, between nature and society, between humans and environments. The aporetic space of postcolonial geographies from which we write is prone to appropriate difference and to recode colonial violence in contemporary

assemblages of race and space (Braun and Wainwright 2001; Lund and Wainwright 2008; Spivak 1999). In this way, the disciplinary field of inquiry for nature-society geography of the relation between nature and culture is a false one (Braun 2004), and yet, this false division orders thinking and being such that we are bound to the division even in aspiring to its disavowal.

But as Spivak argues, we must not give up on our disavowal because we realize the impossibility of disaffiliation. Beginning in the middle of this double bind for this study of these becomings of race and space, I began from a position that addressing matter is not simply a question of representation, as if the realm of knowing lay outside the realm of material being such that thought exists in a separate and distinct reality of concrete materiality. This project works with a theory of political matter, in which to know is a matter of being, and the materiality of things is performatively achieved in a complex play of knowledge and power (Barad 2003). In this sense, politics is not simply the result of conflicting and competing understandings and claims to the material world, but rather materiality and politics are themselves doubles bound together in becoming. I argue that such a political ontology is required to "make sense of the collectivities in which we live and to respond adequately to the technological ensembles that are folded through social and political life" (Braun and Whatmore 2010: x; Barad 2003; Grosz 1994). Thinking about the stuff of matter, and of politics, in this way means that we must consider the roles of *technē* and *epistēmē* in what happens when we "say 'truth' and usually understand it as correctness of representation" (Heidegger 1993 [1964]: 318). In "The Question Concerning Technology," Heidegger explains that technē and epistēmē

> are terms for knowing in the widest sense. They mean to be entirely at home in something, to understand and be expert in it. Such knowing provides an opening up. As an opening up it is a revealing. … It is as revealing, and not as manufacturing, that technē is a bringing-forth. …Technology is a mode of revealing. Technology comes to presence in the realm where revealing

> and unconcealment take place, where alētheia, truth, happens. (Heidegger 1993 [1964]: 318-319)

In this sense, technology is not simply to be understood instrumentally as those objects created by humans with which to engage material reality; material reality is everywhere already marked by an "originary technicity," wherein technical objects give shape to the objects, beings, and bodies they have typically been seen merely to externally interact with as instruments (Braun and Whatmore 2010: xvi-xxii). This is not to insist on a world without a mind-independent reality as some muscular realists might presume, but it is to say that epistemology, technology and ontology—knowing, making, and being—are each woven together in a singular plane of existence. Moreover, this political ontology, while refusing any sense of technological determinism, abandons humanism and liberalism that "posit intention and action as attributes of autonomous individuals, rather than locating their capacities in relation to a larger transindividual field that precedes the individuation of singular things," including the becoming-being of the human, human bodies, and their biological materiality (Braun and Whatmore 2010: xx). So, not only is the material already political but so is the biological, ecological, even geomorphological.

By bridging between geographical literature on political ecology and environmental justice to observe and interrogate confluences of race and nature, this research contributes to our understandings of how society and environment articulate together. It also furthers geographical methods and theory to better understand the production of territory under a regime of neoliberal biopolitics.

7.3 Future Courses of Research

Part of what makes political ecological thinking about hydrosocial relations both fruitful and complicated is the very indeterminacy constituted by the hydraulics of a river system – the

wandering littoral that rises and falls with seasons and tempests, the constant variation of flows and movement that typify "fluvial communication," and the inherent vascillations between instabilities and metastabilities conditioned by periodic flood (Virilio 2006). These constant alterations provide constantly varying material relationships through surplus and dearth. The ecology of a floodplain swamp is produced out of these rhythmic differences. The Altamaha rises from a center of what Karen Bakker (2011) has described as a global urban water crisis. In Georgia, a drought in 2007 and 2008 resulted in reductions in residential water usage and power plant outputs (UCS 2011; WSTF 2011). But it could have been much worse. Atlanta withdraws the majority of its municipal water from the Chattahoochee River and a large impoundment to the northeast of the metropolitan area. The Chattahoochee, which flows from Atlanta to Columbus where it begins to mark the state line with Alabama, and then continues on to the join the Flint River to form the Apalachicola River that flows into the Florida panhandle. Long the focus of large-scale federal dam projects to guarantee navigability, the flow of the Chattahoochee below Atlanta becomes an entirely orchestrated process of coordinated releases from back to back dams operated by the Army Corps of Engineers. The engineered flows of the Chattahoochee have been the site of more than a decade of contention between Georgia, Florida, and Alabama over minimum flows in this system. Roughly ten years the states seemed to be nearing an agreement, but then they fell apart and a judicial decision indicated that Atlanta might have to suspend its withdrawals for municipal use from Lake Lanier, its largest freshwater source, because it was not in fact permitted for those withdrawals.

Since this severe drought, a complex set of relationships between local governments, local water management authorities, state programs, and national regulatory bodies have rapidly altered the bureaucratic landscape for the permitting, financing, and developing of hydro projects

in the Altamaha River System. The Governor of Georgia subsequently established a Water Contingency Task Force and a Water Supply Program that is intended to direct state funds to local water management authorities for the development of water storage facilities. Municipal governments are banding together to finance reservoirs that they will jointly manage based on complex models or estimated yields. Adding to these bustling transformations of finance and governance in the ARS hydroscape, in the context of another extreme drought, national observers are pointing to the ARS as a site for climate-driven conflicts over the provision of water for residential use and the permitting of large withdrawals for thermoelectric energy production, such as coal-fired electricity-generating plants (UCS 2011). As such, ARS flows are implicated in controversy over what the state, its managers, and environmentalists all refer to as water resource allocations.[v]The Altamaha is caught up in complex relationships between municipal and state-level finance for water supply projects and their relations to Georgia Power, a for profit corporation who the state gave monopoly rights to the provision of electric services across most "territories" of the state in the 1970s (OCGA 1973). Environmentalists point to problems arising from the "water-energy nexus" in the Upper Oconee and Ocmulgee watersheds, where permits for reservoir and power plant construction threaten to "run the river dry," as one interviewee described (UCS 2011). The political economic situation of water planning enrolls the Altamaha in Georgia's "technostructure" for the provision of electricity and the provision of water (Lefebvre 2009: 238; OCGA 1973; WSTF 2011).

Lefebvre's (2009) discussion of the *l'espace étatique* points out how the "production of energy is closely tied to the production of political space" even when the production of energy is transferred to "private" companies at low prices: "With its technostructure controlling energy questions, the State gradually becomes the master of them, not only because it controls the units

of production, but because it partitions space under the double surveillance of its technicians and the police" (237). The Governor's Water Supply Program just began offering loans of as much as $30 million dollars to municipalities and coalitions of municipalities banded together in interesting, and relatively new in Georgia, forms of corporate water management authorities, who are priming to begin trading in water permits with other municipalities and authorities.

Neil Smith's *Uneven Development* (2008) demonstrates the significant role of capitalism in the transformation of territories to produce particular kinds of nature and space, and to organize subjectivities in accordance with this distribution through bourgeois ideologies of nature that "brought nature into suburban drawing rooms" where it could be "domesticated, sanitized, and sprawled out on the coffee tables" (21). These subjectivities, according to Smith (2008), were founded "upon the exclusion of concrete labor from the universality of nature" and the "ritual acquiescence to the delicate sensitivities of the leisured classes, for whom, upon being confronted with the real source of their wealth, the very sight of work brings on a swoon" (30). Smith explores what Foucault might have called a heterotopia, Edenic external nature as a place of escape from political realities where practices of idolizing external nature that Smith refers to as the ideology of nature work not only to instantiate and reproduce violent social relations but also to veil these forms of violence.

In future courses of research, I will further develop my examination of the Altamaha as fluvial technology by working through the political ecology of plantation agriculture in the 19th century, and following through to the coupling of race-nature-state in the production of power and reservoirs. Many discussions of my fieldwork, as in the example below, shed light on the water-energy nexus and the coupling of state power with developing water resources:

> Governor's Water Supply Program application for project [the Newton County Bear Creek Reservoir (ACE 2008)] … saying 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. And low and behold, [following the state funding for the reservoir] Baxter International, the pharmaceutical company, announced… that they were going to move there. Sure enough, in the Governor's Water Supply application it says very specifically, "We would like to lure people to Stanton Springs," and they used the example of Baxter making the decision in the application.

The Georgia Environmental Protection Division of the Department of Natural Resources permits and enforces withdrawals of water through regulatory conventions of "minimum flows" and "total maximum daily loads." The Southeast is not arid, but conflicts over provisioning water in Georgia have become increasingly pronounced in recent years especially following periods of drought that nearly exhausted drinking water supplies for Atlanta and Athens. Conflicts between Georgia, Florida, and Alabama over minimum flows in the Chattahoochee River have increased concerns about withdrawals of freshwater. In the past several years the state has developed host of new water management initiatives such as the Water Contingency Task Force and the Comprehensive Statewide Water Management Plan. The proximity of the Altamaha's headwaters to concentrations of urban growth and the status of the system as relatively "underdeveloped" make it a desirable site for permitting water supply projects such as reservoir construction. The Governor's Water Supply Program, developed to assist local governments in developing water supply projects for future water needs, recently funded two reservoir projects in the upper Altamaha basin have received the largest share of this funding to date: the proposed Hard Labor Creek reservoir in Walton County and Bear Creek reservoir in Newton County.

Tim Mitchell (2005) has frequently riffed on the significance of how ''the economy is a surprisingly recent product of socio-technical practice, emerging only in the mid-twentieth century" as "new forms of consumption, marketing, business management, government

planning, financial flows, colonial administration, and statistical work" established the economy as a "free-standing object" that could be measured, calculated, and regulated as such (298). A similar case can be made for "the ecology," which emerged along a similar trajectory in early 20th-century modernism, as the Greek root *oikos* was extended out to denote not simply a set of relations, functions, and practices, but a thing in and of itself, divided between the human "economy" and the nonhuman "ecology." What makes this detail of intellectual history so significant is how the emergence of these nouns have had dramatic implications for the way we understand ourselves, the sites and stakes of political confrontation.

I have also begun collaborating on a new avenue of research emerging from my dissertation results to develop a socio-ecological index of racial segregation in Atlanta focused on watersheds. In future work I will build on longstanding relationships with key stakeholders in river and watershed governance to focus on the urban political ecology of water in the Atlanta metropolitan area.

7.4 Outflow

Environmental degradations of rivers and floodplains are among the most pressing concerns for governance in the 21st century. At the same time, we implement responses to environmental degradation and crises in the context of deeply divided societies. My work contributes to an understanding of how landscapes of racial inequality integrate with the ecological systems that we address through environmental governance in North America. Findings from this research on confluences of race and nature in the Altamaha Basin can be summarized in three key points: 1) the innovation of environmental governance of rivers that involves community-based activism produces racially differentiated outcomes in terms of exposure to environmental harms and access to the benefits of environmental regulation; 2) the historical geographies of whiteness in river and watershed organizing is itself a key factor maintaining the underrepresentation of minorities in environmental governance of surface waters and riparian environments; and 3) the

institutionalization of environmental justice consolidates a politics of recognition that in fact perpetuate the violence of environmental racism and sap the potential power of people of color fighting against injustice.

The productive interference of genealogy and fieldwork addressed to the Altamaha discloses the river system as a technology materialized through human and nonhuman intra-actions. A discontinuous, counter-history of the Altamaha diffracts moments of confluence coupling race and nature. These confluences have been enrolled in practices of territory making that simultaneously constitute the enfleshment and formation of racial difference. From its role as a bordering technology on the southern British colonial frontier in the 18th century to its implication in global assemblage of empire tied to the cotton production of plantation economies and logging of bottomland hardwood forests for naval stores, the Altamaha has functioned in the materialization of settler colonial territories, which have transitioned through emergent formations and deformations to materialize the racially differentiated territory of the U.S. as a racial state.

In the past 20 years, the fluvial technology of the Altamaha is entangled with an innovation in environmental governance that functions through a conjunction of state regulation and putatively oppositional grassroots organizing. In Chapter 3, I combined empirics from a genealogy of the Altamaha with fieldwork to diagram the Altamaha as fluvial technology. In the 18th century, the Altamaha functioned as colonial frontier and was enrolled in the planetary scientific enterprises of Linnaean natural history. Touching more briefly on the economic role of the Altamaha in plantation agriculture, I concluded with an examination of contemporary environmental governance as biopolitical. My argument is that the proliferation of community-based river and watershed nonprofits the whiteness of watershed subjects is coupled with the political materiality of this historically significant and ecologically valued southeastern US River

Basin. In this sense, the Altamaha is not only ecological and hydrological but also technological, functioning in an assemblage today that couples riparian whiteness with environmental governance that introduces a break in society, whereby people of color experience more death through environmental exposures to toxic pollution and less access to green space and the benefits of environmental governance.

In Chapter 4, I turn to a study of how riparian whiteness works in conjunction with a community-based watershed approach to state regulation of watersheds and rivers. These innovations bear traces of previous fluvial technologies, particularly in that the colonial natural history of William Bartram continues to haunt the spaces and practices of environmental conservation. Chapter 5 argues that the institutionalization of environmental justice by the state amounts to a capture of the radical potential of the environmental justice movement. Community organizers in Atlanta's predominantly African-American South River watershed have recognized the dangers of state recognition of environmental justice without sufficient concern or commitment to rectify the violence of environmental racism. Pivoting from this strategic insight, Chapter 6 examines how the South River Watershed Alliance employs improvisational tactics against the racial state by restaging recreation as civil disobedience and refusing state recognition of the middle-class black suburbs of southeast metro Atlanta as an "EJ community."

These empirical findings support a theoretical argument that helps to bridge between political ecology and environmental justice scholarship. Using social natures techniques to examine the political materiality of environments provides a means of studying territory as global assemblages constituted through and with the enfleshment of bodily differences. Thinking territory as an assemblage of race-nature-state provides a theoretical means of grounding understandings of biopolitics. Territorial assemblages of race-nature-state suggest ways of

moving forward with radical research and political movements against the white supremacy and environmental racism of the racial state. The theoretical innovation supported by the empirical findings of this dissertation, contribute to the critiques of humanism levied by recent scholarship on black geographies by pushing such thought into the realm of "human-environment interactions." My research on confluences of race and nature in the Altamaha River Basin demonstrates how black death and constitutive exclusions of blackness are part of the territorial assemblage of race-nature-state that materialize riparian environments connected in the fluvial space of the Altamaha.

REFERENCES

ACE (2008) Bear Creek Reservoir, Newton County Georgia, Permit Application #2000003600. *Department of the Army Corps of Engineers, Regulatory Branch.* Section 404 of the Clean Water Act (33 U.S.C. 1344), 9 January

Agamben G (2005) *State of Exception.* Chicago: University of Chicago Press.

--- (1998) *Homo sacer: sovereign power and bare life.* Stanford, California: Stanford University Press

Agrawal A (2005) *Environmentality: Technologies of government and the making of subjects.* Durham: Duke University Press

Allen J and E Turner (2012) Black–White and Hispanic–White Segregation in US Counties. *The Professional Geographer* 64 (4): 503-520

Althusser L (1990) From *Capital* to Marx's Philosophy. In *Reading Capital*, L Althusser and E Balibar, eds. New York: Verso

--- (2005) *For Marx*. New York: Verso

American Rivers (2002) *America's most endangered rivers of 2002*. Washington DC: American Rivers

Anderson W (2002) Introduction: Postcolonial Technoscience. Social Studies of Science 32: 643-58.

--- (2003) The natures of culture: Environment and race in the colonial tropics. In *Nature in the global South: Environmental projects in South and Southeast Asia*, ed. P. Greenough and A. Lowenhaupt Tsing, 29-46. Durham/London: Duke University Press.

Anzaldua G (2007) *Borderlands/La Frontera: The New Mestiza*. San Francisco: Aunt Lute Books.

Bakker K (2005) Neoliberalizing nature? Market environmentalism in water supply in England and Wales. *Annals of the Association of American Geographers* 95: 542-565

--- (2009) Neoliberal nature, ecological fixes, and the pitfalls of comparative research. *Environment and Planning A* 41: 1781-1787

--- (2010a) *Privatizing Water: Governance Failure and the World's Urban Water Crisis* Ithaca: Cornell University Press.

--- (2010b) Debating green neoliberalism: the limits of "neoliberal natures." *Progress in Human Geography*

Baldwin A (2009) Carbon Nullius and racial rule: race, nature and the cultural politics of forest carbon in Canada. *Antipode* 41: 231-255

--- (2011) Whiteness and Futurity: Towards a Research Agenda. *Progress in Human Geography*

Baldwin A, L Cameron, and A Kobayashi, eds. (2011) *Rethinking the Great White North: Race, Nature, and the Historical Geographies of Whiteness in Canada* Vancouver: University of British Columbia Press

Barad K (2003) Posthumanist performativity: toward an understanding of how matter comes to matter. *Signs: Journal of Women in Culture and Society* 28 (3): 801-831

--- (2007) *Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning* Chicago: Duke University Press.

Bartram W (1996) *Travels and Other Writings* New York: Library of America

Bennett J (2009) *Vibrant matter: A political ecology of things* Duke University Press.

Bernhardt, E. S., Sudduth, E. B., Palmer, M. A., Allan, J. D., Meyer, J. L., Alexander, G., ... & Rumps, J. (2007). Restoring rivers one reach at a time: results from a survey of US river restoration practitioners. *Restoration Ecology*, *15* (3), 482-493.

Bhaskar R (1978) *A Realist Theory of Science* New Jersey: The Harvester Press

Biagioloi M, ed. (1999) *The Science Studies Reader* New York: Routledge

Biermann C and B Mansfield (2014) Biodiversity, purity, and death: conservation biology as biopolitics. *Environment and Planning D: Society and Space* 32 (2): 257-273

Blomely N (2002) Mud for the Land. *Public Culture* 14 (3) 557-582

--- (2003) Law, Property, and the Geography of Violence: The Frontier, the Survey, and the Grid. *Annals of the Association of American Geographers* 93 (1): 121-141

Bogue R (2009) A Thousand Ecologies. In *Deleuze|Guattari & Ecology*, B Herzogenrath, ed. New York: Palgrave Macmillan, 42-56

Bonilla-Silva E (2003) *Racism without Racists: Color-Blind Racism and the Persistence of Racial Inequality in the United States.* Lanham, MA: Rowman & Littlefield

Bonnett A (1997) Geography, 'Race' and Whiteness: Invisible Traditions and Current Challenges. *Area* 29: 193–199

--- (2000) *White Identities: Historical and International Perspectives* London: Prentice Hall

Bonney R., JL Shirk, TB Phillips, A Wiggins, HL Ballard, AJ Miller-Rushing, and JK Parrish (2014) Next steps for citizen science. *Science*, 343 (6178): 1436-1437

Braun B (1997) Buried Epistemologies: The Politics of Nature in (Post)colonial British Columbia. *Annals of the Association of American Geographers* 87: 3-32.

--- (2000) Producing Vertical Territory: Geology and Governmentality in Late Victorian Canada. *Cultural Geographies* 7 (1): 7-46

--- (2002) *The Intemperate Rainforest: Nature, Culture, and Power on Canada's West Coast* Minneapolis: University of Minnesota Press

--- (2005) Environmental issues: Writing a More-than-human Urban Geography. *Progress in Human Geography* 29 (5): 635-650

--- (2006) Toward a New Earth and a New Humanity: Nature, Ontology, Politics. In *David Harvey: A Critical Reader*, N Castree and D Gregory, eds. Oxford: Blackwell: 191-222

--- (2007) Biopolitics and the Molecularization of Life. *Cultural Geographies* 14: 6-28

--- (2008) Environmental issues: inventive life. *Progress in Human Geography* 32: 667-679

--- (2014) A new urban dispositif? Governing life in an age of climate change. *Environment and Planning D: Society and Space*, *32* (1): 49-64

Braun B and J Wainwright (2001) Nature, poststructuralism, and politics. In, *Social nature: Theory, practice, and politics*, 41-63

Braun B, S Whatmore, and I Stengers (eds) (2010) *Political matter: Technoscience, democracy, and public life*. Minnesota: University of Minnesota Press

Brown RH (2002) *The Greening of Georgia: The Improvement of the Environment in the Twentieth Century*. Macon, GA: Mercer University Press

Bullard R (1990) *Dumping in Dixie: Race, Class and Environmental Quality* Boulder: Westview Press

--- (1993) *Confronting environmental racism: Voices from the grassroots*. Boston, Massachusetts: South End Press.

Bullard R, GS Johnson, and AO Torres (1999*) Sprawl city: Race, politics, and planning in Atlanta*. Washington, DC: Island Press

Bumpus A and D Liverman (2008) Accumulation by decarbonisation and the governance of carbon offsets. *Economic Geography* 84: 127-155

Butler J (1993) *Bodies that matter: On the discursive limits of sex* New York: Routledge

Buytaert, W., Dewulf, A., De Bièvre, B., Clark, J., & Hannah, D. M. (2016). Citizen Science for Water Resources Management: Toward Polycentric Monitoring and Governance?. *Journal of Water Resources Planning and Management*, *142*(4), 01816002.Byrne J (2012) When green is white: The cultural politics of race, nature and social exclusion in a Los Angeles urban national park. *Geoforum* 43(3): 595–611.

Byrne J and Wolch J (2009) Nature, race, and parks: Past research and future directions for geographic research. *Progress in Human Geography* 33(6): 743–765.

Carroll P (2012) Water and Technoscientific State Formation in California. *Social Studies of Science* 42 (4): 489-516

Casarino C (2002) *Modernity at Sea: Melville, Marx, Conrad in Crisis.* Minnesota: University of Minnesota Press

Cashin S (2001) Middle-Class Black Suburbs and the State of Integration: A Post-Integrationist Vision for Metropolitan America. *Georgetown Law Faculty Publications and Other Works*. Paper 520.

Castree N (2002) False Antitheses: Marxism, Nature, and Actor-Networks. *Antipode* 34 (1): 119-48

--- (2005) *Nature.* New York: Routledge

--- (2008a) Neoliberalising nature: the logics of deregulation and reregulation. *Environment and Planning A* 40: 131-152

--- (2008b) Neoliberalising nature: processes, effects, and evaluations. *Environment and Planning A* 40: 153-173

Castree N and B Braun, eds. (2001) *Social Nature: Theory, Practice and Politics* Malden, MA: Blackwell

Castree N and T MacMillan (2001) Dissolving dualisms: Actor-networks and the reimagination of nature. *Social Nature* Oxford: Blackwell 208-224

CI (2010) *Conservation International: Our Strategy* http://www.conservation.org/discover/mission_strategy/Pages/strategy.aspx (Last accessed:11 December 2010)

Cohen, A. (2012). Rescaling environmental governance: watersheds as boundary objects at the intersection of science, neoliberalism, and participation. *Environment and Planning A*, *44*(9), 2207-2224.

Cohen S (1998) Reading Science Studies Writing. *The Science Studies Reader* (1999). New York: Routledge

Conrad CC and KG Hilchey (2011) A review of citizen science and community-based environmental monitoring: issues and opportunities. *Environmental Monitoring Assessment* 176: 273–291

Cook I and M Crang (1995) *Doing ethnographies*. University of East Anglia

Cooper CB, J Dickinson, T Phillips, and R Bonney (2007) Citizen science as a tool for conservation in residential ecosystems. Ecology and Society 12(2): 11. [online] URL: http://www.ecologyandsociety.org/vol12/iss2/art11/

Culler J (1997) *Literary theory: a very short introduction* New York: Oxford University Press

Craft C (2012) Tidal Freshwater Forest Accretion does not keep Pace with Sea Level Rise. *Global Change Biology* 18 (12), 3615-3623

Craige BJ (2001) *Eugene Odum: Ecosystem Ecologist and Environmentalist.* Athens, GA: University of Georgia Press

Cruickshank J, ed. (2003) *Critical realism: the difference that it makes* New York: Routledge

CWCS (2005) *A Comprehensive Wildlife Conservation Strategy for Georgia* Georgia Department of Natural Resources, Wildlife Resources Division. http://www1.gadnr.org/cwcs/Documents/strategy.html Last accessed 15 June 2016

Dai D (2011) Racial/Ethnic and socioeconomic disparities in urban green space accessibility. *Landscape and Urban Planning* 102: 234-244

Dawkins C (2004) Measuring the spatial pattern of residential segregation. *Urban Studies* 41 (4): 833-851

Deganian D and J Thompson (2012) Patterns of Pollution: A Report on Demographics and Pollution in Metro Atlanta. GreenLaw http://greenlaw.org/Files/GreenLaw/2012/PatternsofPollution,FINAL,GreenLaw3-26-2012.pdf (last accessed 15 May 2012)

DeLanda M (2002) *Intensive Science and Virtual Philosophy.* London: Continuum Books

--- (2009) Ecology and Realist Ontology. In *Deleuze|Guattari & Ecology*, B Herzogenrath, ed. New York: Palgrave Macmillan, 23-41

Deleuze G (2012) *Foucault*¸ trans S Hand. Minneapolis: University of Minnesota Press

Deleuze G and F Guattari (2009) [1987] *A Thousand Plateaus: Capitalism and Schizophrenia*, trans B Massumi. Minneapolis: University of Minneapolis Press

Department of Energy (DOE), U.S. (2006) *Report to Congress on the interdependency of energy and water* http://www.sandia.gov/ener`gy-water/docs/121-RptToCongress-EWwEIAcomments-FINAL.pdf

Derrida J (1978) *Writing and Difference*, trans A Blass. Chicago: University of Chicago Press

--- (1987) Structure, Sign, and Play in the Discourse of the Human Sciences in *Twentieth Century Literary Theory*, V Lambropoulos and DN Miller, eds. Albany: State University of New York Press, 35

--- (1994) *Specters of Marx, the state of the debt, the Work of Mourning, and the New International*, trans Peggy Kamuf, New York: Routledge 1994

--- (1997) *Of Grammatology*, trans G Spivak. Baltimore: The Johns Hopkins University Press

Dillon L (2014) Race, waste, and space: Brownfield redevelopment and environmental justice at the Hunters Point Shipyard. *Antipode* 46(5): 1205–1221

DeVorsey L (1970) Indian Boundaries in Colonial Georgia. *The Georgia Historical Quarterly* 54 (1): 63-78

DNR (2003) Georgia Drought Management Plan. Georgia Department of Natural Resources, 26 March

Dow K (2010) News coverage of drought impacts and vulnerability in the US Carolinas, 1998-2007. *Natural Hazards* 54: 497-518

Ducre KA (2006) Racialized spaces and the emergence of environmental Injustice. In SH Washington, P Rosier, and H Goodall, *Echoes From the Poisoned Well*. Langham, MD: Lefington Books.

Echols J (2015) Save our rivers: We can achieve environmental justice by restoring Atlanta's rich waterways. *Creative Loafing*, 9 July. Atlanta

Elden S (2014) *The Birth of Territory*

--- (2009) *Terror and Territory: The Spatial Extent of Sovereignty.* Minneapolis: University of Minnesota Press

--- (2007) Governmentality, Calculation, Territory. *Environment and Planning D: Society and Space* 25: 562-580

Emanuel B, R Hardy, R Milligan, and B Nuse (2005) Ecological Surveys of Four River Corridors in Georgia. *Proceedings of the 2005 Georgia Water Resources Conference*, K Hatcher, ed. 25-27 April 2005, University of Georgia, Institute of Ecology

Emanuel B and J Hoffner (2012) *Money pit: The High Cost and High Risk of Water Supply Reservoirs in the Southeast* American Rivers, July 2012 http://www.americanrivers.org/assets/pdfs/reports-and-publications/money-pit-report.pdf (last accessed 15 July 2012)

England KVL (1994) Getting personal: Reflexivity, positionality, and feminist research. *The Professional Geographer* 46 (1): 80-89

Engle SM (2000) *Colonizing Hawai'i: The Cultural Power of Law.* Princeton, NJ: Princeton University Press

Environmental Integrity Project (2010) Dirty Kilowatts: America's Top Fifty Mercury Emitters http://www.environmentalintegrity.org/news_reports/documents/EIP_Top50USPowerPlantMercuryEmitters2010.FINAL042910.pdf (last accessed 15 July 2012)

EPA (1998a) *Brownfields Assessment Demonstration Pilot: East Point, GA* EPA 500-F-98-192

--- (1998b) Consolidated Consent Decree in the Upper Chattahoochee Riverkeeper et al v. City of Atlanta, Georgia, Case No. 1:95 CV-2550-TWT, and United States et al v. City of Atlanta. U.S. Attorney General, Department of Justice and Environmental Protection Agency (last accessed 25 July 2016 https://www.epa.gov/sites/production/files/2013-10/documents/atlanta1998-cd.pdf)

--- (1999)

--- (2010) *DeKalb County Clean Water Act Settlement, Federal Consent Decree*. U.S. Attorney General, Department of Justice and Environmental Protection Agency, 13 December

EPD (2012*) State of Georgia Impaired Streams, Integrated Clean Water Act 305(b)/303(d) List: Streams not Supporting Designated Uses*. Georgia Department of Natural Resources, Environmental Protection Division

--- (1994) Tift Site: 10393. *Georgia Department of Natural Resources, Environmental Protection Division Hazardous Site Inventory.* Atlanta, GA.

Ethridge R (2003) *Creek Country: The Creek Indians and their World.* Chapel Hill: University of North Carolina Press

Fair J (2010) *The Tifts of Georgia: Connecticut Yankees in King Cotton's Court.* Macon, GA: Mercer University Press

Ffrench-Parker J (2010) Access to Nasty South River Denied. *CrossRoadsNews*, 30 July (last accessed 26 July 2016: http://crossroadsnews.com/news/2010/jul/30/access-to-nasty-south-river-denied/*)*

--- (2012) Friends of South River to show off its beauty, warts. *CrossRoadsNews* 17 (50): 1-4

Finney C (2004) Can't see the Black folks for the trees. In *Voices of a New Generation: A Feminist Anthology*, S Weir and C Faulkner eds. New York: Pearson, 9–16

--- (2014) *Black Faces, White Spaces: Reimagining the Relationship of African Americans to the Great Outdoors*. Chapel Hill, NC: University of North Carolina Press

Fletcher R (2010) Neoliberal environmentality: towards a poststructuralist political ecology of the conservation debate. *Conservation and Society*, 8 (3): 171

Foucault M (1980) Questions on Geography. *Power/Knowledge: Selected Interviews and Other Writings, 1972–1977* Colin Gordon, ed. New York: Pantheon, 63–77

--- (1990) *The History of Sexuality Volume I: An Introduction* New York: Random House

--- (1995) *Discipline and Punish: The Birth of the Prison* New York: Random House

--- (1997) Nietzsche, Genealogy, History. In *Language, Counter-memory, Practice.* Ithaca: Cornell University Press

--- (2002) *The Order of Things* [1970]. London: Routledge

--- (2003) *Society Must Be Defended: Lectures at the College de France 1975-1976* New York: Picador

--- (2007) *Security, Territory, Population*. *Lectures at the College de France 1977-1978* New York: Picador

--- (2008) *The Birth of Biopolitics: Lectures at the College de France 1978-1979* New York: Picador

--- (2010) *The Archaeology of Knowledge* New York: Random House

Frankenberg R (ed) (1997) *Displacing Whiteness: Essays in social and cultural criticism,* R Frankenberg, ed. Durham: Duke University Press

Fredrickson A (2013) The California coastal act and ports: The unintended environmental justice implications of preserving California's coastline. *Coastal Management* 41(3): 258–271

Galli C (2010) *Political Spaces and Global War* Minneapolis: University of Minneapolis Press

Gandy M (2002) *Concrete and Clay: Reworking Nature in New York City* Cambridge, MA: MIT Press

--- (2014)

Gagnon PR, WJ Platt, and EB Moser (2007) Response of a native bamboo [*Arundinaria gigantea* (Walt.) Muhl.] in a wind-disturbed forest. *Forest Ecology and Management* 241(1): 288-294

Gannon M (1992) The New Alliance of History and Archaeology in the Eastern Spanish Borderlands. *The William and Mary Quarterly* 49 (2): 321-334

GCA (2010) Upper Oconee Basin Water Authority v. Jackson County, No. A10A0455. Judge Adams, State of Georgia Court of Appeals, 14 July

Gibson-Graham JK (1996) *The end of capitalism (as we knew it): a feminist critique of political economy* Cambridge, MA: Blackwell

--- (2006) *A postcapitalist politics.* Minneapolis: University of Minnesota Press

Gibson-Wood H and S Wakefield (2013) "Participation", white privilege and environmental justice: Understanding environmentalism among hispanics in Toronto. *Antipode*, 45(3), 641-662

Gilmore R W (2002) Fatal Couplings of Power and Difference: Notes on Racism and Geography. *The Professional Geographer* 54(1): 15-24

Godlewska A and N Smith, eds. (1994) *Geography and Empire* Cambridge, MA: Blackwell

Goldberg DT (2002) *The Racial State* Malden, MA: Blackwell

Goldman MJ, P Nadasdy, and M Turner (2011) *Knowing nature: Conversations at the intersection of political ecology and science studies*. Chicago: University of Chicago Press.

Gomez A, F Shafiei, and G Johnson (2011) Black Women's Involvement in the Environmental Justice Movement: An analysis of Three Communities in Atlanta, Georgia. *Race, Gender & Class*, 18 (1-2): 189-214

Greer KA (2008) Placing colonial ornithology: Imperial ambiguities in Upper Canada, 1791-1841, *Scientia Canadensis* 31 (2008): 88

Grosz E (1994) *Volatile Bodies: Toward a Corporeal Feminism* Bloomington: Indiana University Press

--- (2008) Chaos, Territory, Art: Deleuze and the Framing of the Earth. New York: Columbia University Press

Hale G (1998) *Making Whiteness: the Culture of Segregation in the South, 1890-1940*

Hall M and B Lee (2010) How diverse are US suburbs? *Urban Studies* 47 (1): 3-28

Hall S (1980) Race, Articulation, and Societies Structured in Dominance. In *Sociological Theories: Race and Colonialism,* ed. M. O'Callaghan. Paris: UNESCO

--- (1997) *Representation: Cultural Representations and Signifying Practices*. London: Sage

Haney Lopez I (2006) *White by law: the legal construction of race* New York: New York University Press

Haraway D (1988) Situated Knowledges: the Science question in feminism and the privilege of partial perspective. *The Science Studies Reader* (1999) New York: Routledge, 172-188

--- (1989) Introduction: The persistence of vision. In *Primate Visions: Gender, Race, and Nature in the world of modern science* D. Haraway, ed. London Routledge, 1-15

--- (1991) A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century. In *Simians, Cyborgs and Women: The Reinvention of Nature* New York: Routledge, 149-181

--- (1997) *Modest_Witness@Second_Millennium. FemaleMan©_Meets_OncoMouse™: Feminism and Technoscience*. New York: Routledge

Harbert H and S Blackburn (2016) Watershed and longitudinal monitoring events. *Headwaters to Estuaries: Advances in Watershed Science and Management,* 116.

Hartshorne C (1973) *Born to Sing: An Interpretation and World Survey of Bird Song.* Bloomington: University of Indiana Press

Hahn SC (2004) *The Invention of the Creek Nation, 1670-1763*. U of Nebraska Press.

Harvey D (1982) *The Limits to Capital*. Oxford: Basil Blackwell

--- (2001) *Spaces of Capital*. New York: Routledge

--- (1995) Militant Particularism and Global Ambition: The Conceptual Politics of Place, Space, and Environment in the Work of Raymond Williams. *Social Text* 42: 69-98.

Hayes M (2006) The Building Blocks of Atlanta: Racial Residential Segregation and Neighborhood Inequity. *Sociology Theses*. Paper 10.

Heidegger M (1993) The Question Concerning Technology [1964]. In *Basic Writings* New York: Harper Collins

Herod A (2001) *Labor Geographies*. New York: Guilford Press

Herod A and M Wright (Eds.) (2008) *Geographies of power: placing scale*. Wiley.

Heynen N (2014) Urban political ecology I: The urban century. *Progress in Human Geography* 38(4): 598–604.

--- (2015) Urban political ecology II The abolitionist century. *Progress in Human Geography* 0309132515617394.

Heynen N, J McCarthy, S Prudham, and P Robbins, eds. (2007) *Neoliberal environments: false promises and unnatural consequences* New York: Routledge

Heynen N and H Perkins (2005) Scalar dialectics in green: urban private property and the contradictions of the neoliberalization of nature. *Capitalism Nature Socialism* 16: 5-18

Heynen N, H Perkins, and P Roy (2006) The political ecology of uneven urban green space: The impact of political economy on race and ethnicity in producing environmental inequality in Milwaukee. *Urban Affairs Review* 42(1): 3–25.

Hoelscher S (2006) The white-pillared past: Landscapes of memory and race in the American South. In *Landscape and race in the United States* Taylor and Francis: 39-72

Holloway SR (2000) Identity, Contingency, and the Urban Geography of Race. *Social and Cultural Geography* 1 (2): 197-208

Holloway SR, R Wright, and M Ellis (2012) The Racially Fragmented City?: Neighborhood Racial Segregation and Diversity Jointly Considered. *The Professional Geographer* 64 (1): 63-82

Holifield R (2007) Neoliberalism and environmental justice policy. In *Neoliberal Environments: False Promises and Unnatural Consequences* N Heynen, J McCarthy and P Robbins, eds. New York: Routledge, 202–216.

--- (2009) Actor-Network Theory as a Critical Approach to Environmental Justice: A Case against Synthesis with Urban Political Ecology. *Antipode* 41(4): 637-658.

Holifield R, M Porter, and G Walker (2010) Spaces of Environmental Justice—Frameworks for Critical Engagement. *Spaces of environmental justice* 1-22.

Holifield R and N Schuelke (2015) The place and time of the political in urban political ecology: Contested imaginations of a river's future. *Annals of the Association of American Geographers* 105(2): 294–303

hooks b (1984) *Feminist Theory from Margin to Center*. Cambridge, MA: South End Press

Howell AJ and JM Timberlake (2013) Racial and Ethnic Trends in the Suburbanization of Poverty in U.S. Metropolitan Areas, 1980-2010. *Journal of Urban Affairs* 36 (1): 79-98

Hughes L (1921) The Negro Speaks of Rivers. *The Crisis: A Record of the Darker Races*, Du Bois WEB, ed. 22 (2) New York: National Association for the Advancement of Colored People

Hunter R (2010) Financial Capability-Based Amendment & Schedule Extension Request. *Environmental Protection Agency, Federal Consent Decree: City of Atlanta, Civil Action File No. 1:98-CV-1956-TWT*.

Igoe J, K Neves, and D Brockington (2010) A spectacular eco-tour around the historic bloc: theorising the convergence of biodiversity conservation and capitalist expansion. *Antipode* 42: 486-512

IPCC (2007) *Intergovernmental Panel on Climate Change Synthesis report.* Core Writing Team, RK Pachauri, and A Reisinger, Available at http://www.ipcc.ch/publications_and_data/ar4/syr/en/contents.html (last accessed 07/15/2012)

Junk WJ, PB Bayley, and RE Sparks (1989) The flood pulse concept in river-floodplain systems. *Fisheries and Aquatic Sciences* 106: 110–127

Juras P (2011) *The Southern Frontier: Landscapes Inspired by Bartram's Travels*. Savannah: Telfair Books

Juricek (2010) *Colonial Georgia and the Creeks: Anglo-Indian Diplomacy on the Southern Frontier, 1733-1763*. Gainesville: University Press of Florida

Kaika M (2005). *City of flows: Modernity, nature, and the city*. New York: Routledge

Keil R and G Desfor (2003) Ecological modernization in Los Angeles and Toronto. *Local Environments: The International Journal of Justice and Sustainability* 8: 27-44

Klett M, N Kuehn, R Schoff, V Vaysman, and J White (2005) Power plant water usage and loss study. *Report to the U.S. Department of Energy* http://www.netl.doe.gov/technologies/coalpower/gasification/pubs/pdf/WaterReport_Revised%20May2007.pdf

Kobayashi A (1994) Coloring the Field: Gender, "Race," and the Politics of Fieldwork. *The Professional Geographer* 46: 73-80

Kobayashi A and L Peake (2000) Racism out of place: thoughts on whiteness and an antiracist geography in the new millennium. *Annals of the association of American geographers, 90*(2), 392-403

Koerner L (1999) *Linnaeus: Nature and Nation* Cambridge: Harvard University Press

Kohl E (2014) *Surviving Unregulatable Places: Race, Gender, and Environmental Justice in Gainesville, Georgia.* PhD dissertation, University of Georgia, Athens.

Kosek J (2004) Purity and Pollution: Racial Degradation and Environmental Anxieties. In *Liberation Ecologies: Environment, Development, and Social Movements*, Peet and Watts eds. (2nd edition) London: Routledge

--- (2006) *Understories: The Political Life of Forests in Northern New Mexico* Durham: Duke UP

Kromm C (2011) "lack Belt Power: African Americans Come Back South, Change Political Landscape. *Race, Poverty & the Environment* 18 (2): 17

Kruse K (2007) *White Flight: Atlanta and the Making of Modern Conservatism* Princeton: Princeton University Press

Kurtz H (2002) The politics of environmental justice as the politics of scale: St. James Parish, Louisiana, and the Shintech siting controversy. In *Geographies of power: Placing scale.*, eds. Andrew Herod, Melissa W. Wright, 249-273; Oxford: Blackwell

--- (2003) Scale frames and counter-scale frames: Constructing the problem of environmental injustice. *Political Geography* 22 (8): 887-916

--- (2007) Gender and environmental justice in Louisiana: Blurring the boundaries of public and private spheres. *Gender, Place & Culture: A Journal of Feminist Geography* 14 (4): 409-26

--- (2009) Acknowledging the racial state: an agenda for environmental justice research. *Antipode*, 41 (4): 684-704

Lacy K (2007) *Blue-Chip Black: Race, Class, and Status in the New Black Middle Class*. University of California Press.

--- (2004) Black Spaces, Black Places: Strategic Assimilation and Identity Construction in Middle-Class Suburbia. *Ethnic and Racial Studies* 27 (6): 908-930

--- (2002) A Part of the Neighborhood?: Negotiating Race in American Suburbs. *International Journal of Sociology and Public Policy* 22: 39-74

Latour B (2004) *Politics of Nature: how to bring science into democracy* Cambridge, Massachusetts: Harvard University Press

Lave R (2012) *Fields and streams: Stream restoration, neoliberalism, and the future of environmental science*. Athens: University of Georgia Press

Lemke T (2011) *Biopolitics: An Advanced Introduction.* New York: New York University Press

--- (2001) "The Birth of Bio-Politics": Michel Foucault's Lecture at the College de France on Neo-liberal Governmentality. *Economy and Society* 30 (2): 190-207

Linton J (2010) *What is Water? The History of a Modern Abstraction* Vancouver: UBC Press

--- (2006) The social nature of natural resources: the case of water. *Reconstruction: studies in contemporary culture* 6 (3). http://reconstruction.eserver.org/063/linton.shtml

Little, K. E., Hayashi, M., & Liang, S. (2015). Community-Based Groundwater Monitoring Network Using a Citizen-Science Approach.*Groundwater*.

Latour B (2004) *Politics of Nature: How to Bring Science into Democracy* Cambridge, MA: Harvard University Press

Lefebvre H (1991) *The Production of Space* [1974]. Malden, MA: Blackwell

--- (2009) *State, space, world: selected essays*. Minneapolis: University of Minnesota Press

Lipsitz G (2006) *The Possessive Investment in Whiteness: How White People Profit from Identity Politics*. Philadelphia: Temple University Press

Lloyd R (2012) Urbanization and the Southern United States. *Annual Review of Sociology* 38: 483-506

Lund J and J Wainwright (2008) Miguel Angel Asturias and the Aporia of Postcolonial Geography. *Interventions* 10: 141-157

Mann G (2008). Why does country music sound white? Race and the voice of nostalgia. *Ethnic and racial studies*, 31 (1): 73-100

Marx K (1976) *Capital Volume One*. New York: Vintage

Massey D (2005) *For Space.* London: SAGE

Massumi B (2002) *Parables for the Virtual: Movement, Affect, Sensation.* Durham, NC: Duke University Press

Manuel J (2008) Drought in the Southeast: lessons for water management. *Environmental Health Perspectives* 116 (4): 168-171

McAfee K and N Shapiro (2010) Payments for ecosystem services in Mexico: nature, neoliberalism, social movements, and the state. *Annals of the Association of American Geographers* 100: 580-599

McCarthy J (2004) Privatizing conditions of production: trade agreements as neoliberal environmental governance. *Geoforum* 35: 327-341

McCarthy J and S Prudham (2004) Neoliberal nature and the nature of neoliberalism. *Geoforum* 35: 275-283

McKittrick K (2006) *Demonic Grounds: Black Women and the Cartographies of Struggle* Minneapolis: University of Minnesota Press.

MacDonald K (2010) The Devil is in the (Bio)Diversity. *Antipode* 42: 513-550

Millennium Ecosystem Assessment (MEA) (2005) Ecosystems and human well-being: synthesis. Washington, D.C: Island Press

Milligan R (2012) What's Riparian Got to do With Race. Presentation, Georgia River Network's Annual Weekend For Rivers Conference, Chattahoochee Nature Center, Roswell Georgia, March.

Milligan R and T McCreary, Inscription, Innocence, and Invisibility: Early Contributions to the Discursive Formation of North in Samuel Hearne's A Journey to the Northern Ocean, In *Rethinking the Great White North: Race, Nature and the Historical Geographies of Whiteness in Canada*, A Baldwin, L Cameron and A Kobayashi, eds. Vancouver: UBC Press, 2011

Mitchell T (1998) Fixing the economy. *Cultural Studies* 12: 82-101

--- (1999) Society, economy, and the state effect. In, *State/culture: State-formation after the cultural turn.* Ithaca: Cornell University Press, 76-97

--- (2002) *Rule of Experts: Egypt, Techno-politics, modernity*. Berkley: University of California Press

MMRC (2011) Multi-Region River Corridor Feasibility Study: Phase I. Heart of Georgia Altamaha Regional Commission http://www.hogarc.org/assets/rcsphaseiplan.pdf (last accessed 7 July 2016)

Moore D, J Kosek, and A Pandian (2003) Introduction – The Cultural Politics of Race and Nature: Terrains of Power and Practice. In *Race, nature, and the politics of difference*. Moore D, J Kosek, A and Pandian, eds. Durham: Duke UP, 1-70

Moore DS, J Kosek, and A Pandian, eds. (2003). *Race, Nature, and the Politics of Difference* Durham, NC: Duke University Press.

Moran S (2007) Stream restoration projects: a critical analysis of urban greening. *Local Environment* 12 (2): 111-128.

--- (2008) Under the lawn: Engaging the water cycle. *Ethics Place and Environment* 11(2): 129-145.

--- (2010) Cities, creeks, and erasure: Stream restoration and environmental justice. *Environmental Justice* 3(2) 61-69

Moser S (2008) Personality: a new positionality? *Area* 40 (3): 383-392

Mukerji C (2009) *Impossible engineering: technology and territoriality on the Canal du Midi*. Princeton University Press

Mullings B (1999) Insider or outsider, both or neither: some dilemmas of interviewing in a cross-cultural setting. *Geoforum* 30 (4): 337-350

Nagar R (2014) *Muddying the waters: Coauthoring feminisms across scholarship and activism*. University of Illinois Press

NFWF (2014) Five Star Restoration Grant Program, South River. *National Fish and Wildlife Program.*

Ngai M (2004) *Impossible Subjects: Illegal Aliens and the Making of America* Princeton, NJ: Princeton University Press

Nixon R (2011) *Slow Violence and the Environmentalism of the Poor* Cambridge, MA: Harvard University Press

Nuse B, R Cooper and E Hunter (2015) Prospects for Predicting Changes to Coastal Wetland Bird Populations due to Accelerated Sea Level Rise. *Ecosphere* 6 (12), 1-23

OCGA (1973) Georgia Territorial Electric Service Act. *Official Code of Georgia Annotated § 46-3-2*

Omi M and H Winant (1994) *Racial formation in the United States from the 1960s to the 1990s, 2nd Edition* New York: Routledge

Pandit K (1997) The Southern Migration Turnaround and Current Patterns. *The Southeastern Geographer* 37 (2): 238-250

Peake L (1997) Toward a social geography of the city: Race and Dimensions of Urban Poverty in Women's Lives. Journal of Urban Affairs, 19: 335–361

Pfeiffer D (2012) African Americans' Search for 'more for less' and ' peace of mind' on the Exurban Frontier. *Urban Geography* 33 (1): 64-90

Platt SG and CG Brantley (1997) Canebrakes: an ecological and historical perspective. *Castanea* 62: 8–21.

Platt SG, CG Brantley, and T Rainwater (2009) Native American Ethnobotany of Cane (Arundinaria spp.) in the Southeastern United States: A Review. *Castanea* 74(3): 271-285

Pulido L (1996) A Critical Review of the Methodology of Environmental Racism Research. *Antipode* 28(2): 142

--- (2000) Rethinking Environmental Racism: White Privilege and Urban Development in Southern California. *Annals of the Association of American Geographers* 90 (1): 12-40

--- (2002) *Reflections on a White Discipline. The Professional Geographer 54: 42–49*

--- (2014) Environmental racism as state-sanctioned violence. Keynote address, Dimensions of Political Ecology Conference, University of Kentucky, February

--- (2015) Geographies of race and ethnicity I: White supremacy vs white privilege in environmental racism research. *Progress in Human Geography*

--- (2016) Geographies of race and ethnicity II: Environmental racism, racial capitalism and state-sanctioned violence. *Progress in Human Geography*

Pulido L, S Sidawi, and B Vos (1996) An archaeology of environmental racism in Los Angeles. *Urban Geography* 17 (5): 419–439

Pratt M L (1992) *Imperial Eyes: Travel Writing and Transculturation* London: Routledge

Raffles H (2002) *In Amazonia: A Natural History* Princeton: Princeton University Press

Ramsey WL (2003) “Something Cloudy in Their Looks”: The Origins of the Yamasee War Reconsidered. *The Journal of American History*, 90 (1): 44-75

Ranganathan M (2014) 'Mafias' in the waterscape: Urban informality and everyday public authority in Bangalore. *Water Alternatives* 7(1): 89-105

Ranganathan M (2014) Paying for pipes, claiming citizenship: political agency and water reforms at the urban periphery. *International Journal of Urban and Regional Research*, 38 (2): 590-608

Ranganathan M and C Balazs (2015) Water marginalization at the urban fringe: Environmental justice and urban political ecology across the North–South divide. *Urban Geography* 36(3): 403–423.

Ray J (2011) *Drifting into Darien: A Personal and Natural History of the Altamaha River.* Athens, GA: University of Georgia Press

Razack S (2011) Colonization: The good, the bad, and the ugly. In *Rethinking the Great White North: Race, Nature and the Historical Geographies of Whiteness in Canada* Kobayashi A, L Cameron, and A Baldwin, eds. Vancouver: University of British Columbia Press. 264-270

Rice JL (2014) An urban political ecology of climate change governance. *Geography Compass* 8(6): 381–394.

Robbins P (2007) *Lawn People: How Grasses, Weeds and Chemicals Make Us Who We Are*. Philadelphia: Temple University Press

--- (2011) *Political ecology: A critical introduction*. Malden, MA: Wiley

Robertson M (2004) The neoliberalization of ecosystem services: wetland mitigation banking and problems in environmental governance. *Geoforum* 35: 361-374

--- (2006) The nature that capital can see: science, state, and market in the commodification of ecosystem services *Environment and Planning D: Society and Space* 24: 367-387

Roediger D (1991) *Wages of Whiteness: Race and the Making of the American Working Class* New York: Verso

--- (2005) *Working toward Whiteness: How America's Immigrants Became White* New York: Basic Books

Rose G (1997) Situating knowledges: positionality, reflexivities and other tactics. *Progress in human geography* 21 (3): 305-320

Rose N (2007) *The Politics of Life Itself: Biomedicine, Power and Subjectivity in the Twenty-First Century*. Princeton, NJ: Princeton University Press

Saunt C (1999) *A New Order of Things: Property, Power, and the Transformation of the Creek Indians, 1733-1816*. Cambridge: Cambridge University Press

Said E (1994) *Culture and Imperialism* New York: Vintage.

Saldanha A (2006) Re-ontologizing race. *Environment and Planning D: Society and Space* 24 (1): 9–24

--- (2007) *Psychedelic White: Goa Trance and the Viscosity of Race* Minneapolis: University of Minnesota Press

Sandoval C (2000) *Methodology of the Oppressed* Durham: Duke University Press

Sasser J (2014) From darkness into light: Race, population, and environmental advocacy. *Antipode* 46 (5): 1240–1257.

Schein R (2006) Race and landscape in the United States. In *Landscape and race in the United States* New York: Taylor and Francis: 1-22.

Sepulvado J (2012) A Power Plant, Cancer, and a Small Town's Fears. CNN Radio: 1 April 2012. http://www.cnn.com/2012/03/31/us/georgia-coal-power/index.html (last accessed 15 July 2012)

Shabazz R (2015) Spatializing Blackness: Architectures of Confinement and Black Masculinity in Chicago. Urbana-Champaign: University of Illinois Press.

Shaw WS (2006) Decolonizing Geographies of Whiteness. *Antipode* 38: 851–869.

Shields R (1991) *Places on the margin: Alternative Geographies of Modernity.* London: Routledge

Shiva V (2002) *Water Wars: Privatization, Pollution, and Profit* Toronto: Between the Lines Press

Simondon G (2009) The Position of the Problem of Ontogenesis. *Parrhesia* 7: 4-16

Sirianni (2006) Can a federal regulator become a civic enabler?: Watersheds at the U.S. Environmental Protection Agency. *National Civic Review,* 95: 17–34. doi: 10.1002/ncr.146

Sitze A (2010) Editor's Introduction. In *Political Spaces and Global War* Minneapolis: University of Minneapolis Press

Slocum R (2011) Race in the study of food. *Progress in Human Geography 35*(3), 303-327.

Slocum R and A Saldanha (2013) *Geographies of race and food: Fields, bodies, markets*. Routledge.

Smith LT (1999) *Decolonizing Methodologies: Research and Indigenous Peoples* New York: Zed Books

Smith N (2008) [1984] *Uneven Development: Nature, Capital, and the Production of Space*, 3rd Edition. Athens, GA: University of Georgia Press

Sparke M (2005) *In the Space of Theory: Postfoundational Geographies of the Nation-State* Minneapolis: University of Minnesota Press

Spivak G (1999) *A Critique of Postcolonial Reason: Toward a History of the Vanishing Present.* Cambridge: Harvard University Press

Stengers I (2009) *Cosmopolitics I.* Minneapolis, MN: University of Minnesota Press

Stewart MA (2007) From king cane to king cotton: razing cane in the old South. *Environmental History,* 12(1), 59-79.

Stoler LA (1995) *Race and the Education of Desire: Foucault's History of Sexuality and the Colonial Order of Things.* Durham, NC: Duke University Press

Sullivan J (2011) African Americans Moving South–and to the Suburbs. *Race, Poverty & the Environment* 18 (2): 16-19

Sutherland E (2003) Water Supply Reservoirs in Georgia: An update on Henry County's proposed Tussahaw Creek Reservoir and the importance of thorough environmental impacts analyses. Proceedings of the 2003 Georgia Water Resources Conference, held April 23-24, 2003, at the University of Georgia. Kathryn J. Hatcher, editor, Institute of Ecology, The University of Georgia, Athens, Georgia.

Sweet JA (2005) *Negotiating for Georgia: British-Creek Relations in the Trustee Era, 1733-1752*. Athens, GA: University of Georgia Press

Swyngedouw E (1999) Modernity and Hybridity: Nature, *Regeneracionismo*, and the Production of the Spanish Waterscape, 1890-1930. *Annals of the Association of American Geographers* 89 (3) 443-465

--- (2006) Metabolic Urbanization: The Making of Cyborg Cities. *In the Nature of Cities: Urban Political Ecology and the Politics of Urban Metabolism"* Heynen N, M Kaika, and E Swyngedouw, eds. New York: Routledge, 21-40

--- (2005) Dispossessing H2O: The contested terrain of water privatization. *Capitalism Nature Socialism* 16: 81-98

--- (2004) *Social power and the urbanization of water: flows of power*. Oxford: Oxford University Press.

Swyngedouw E and N Heynen (2003) Urban Political Ecology, Justice and the Politics of Scale. *Antipode: A Journal of Radical Geography* 35(5): 898-918

Sze J (2007) Noxious New York: the Racial Politics of Urban Health and Environmental Justice. Cambridge, MA: MIT Press

Sze J and J London (2008) Environmental justice at the crossroads. *Sociology Compass* 2(4):1331–1354

Taylor D (1993) Environmentalism and the politics of inclusion. In *Confronting Environmental Racism: Voices from the Grassroots* R Bullard, ed. Boston: South End Press, 53–62

--- (2000) The rise of the environmental justice paradigm: Injustice framing and the social construction of environmental discourses. *American Behavioral Scientist* 43 (4):508– 580

TNC (2016) Altamaha River Basin. http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/georgia/placesweprotect/altamaha-river.xml (last accessed 15 June 2016)

--- (2005) *Conserving the Altamaha River Watershed: Conservation Action Plan* http://southeastaquatics.net/uploads/document_pdfs/AltamahaPlan.pdf (last accessed 19 April 2012)

Thompson EP (1975) *Whigs and hunters: the origin of the Black Act* New York: Pantheon

Timberlake JM, Howell AJ, and AJ Staight (2011) Trends in the suburbanization of racial/ethnic groups in US metropolitan areas, 1970 to 2000. *Urban Affairs Review* 47 (2): 218-255

Tockner K, S Bunn, C Gordon, R Naiman, G Quinn and J Stanford (2008) Flood plains: critically threatened ecosystems, In *Aquatic Ecosystems Trends and Global Prospects* Nicholas and VC Polunin, eds. Cambridge: Cambridge University Press: 45-62

Tockner K and JA Stanford (2002) Review of: Riverine Flood Plains: Present State and Future Trends. *Environmental Conservation* 29: 308-330 http://scholarworks.umt.edu/biosci_pubs/166

UCS (2012) Freshwater Use by U.S. Power Plants. The Union of Concerned Scientists http://www.ucsusa.org/assets/documents/clean_energy/ew3/ew3-freshwater-use-by-us-power-plants.pdf (last accessed 15 July 2016)

USDC (2011) *DeKalb County v. U.S. Environmental Protection Agency and Georgia Environmental Protection Division, Federal Consent Decree. Civil Action, Section 309(b) of the Clean Water Act, 33 U.S.C. §1319(b).* United States District Court for the Northern District of Georgia, Atlanta Division

Virilio P (1992) [1976] *L'insécurité du territoire.* 2e édition. Paris: Galilée

Wainwright J (2005) The Geographies of Political Ecology: After Edward Said. *Environment and Planning A* 37:1033-1043

--- (2005) Politics of nature: a review of three recent works by Bruno Latour. *Capitalism, Nature, Socialism* 16, 115-27

--- (2008) *Decolonizing Development: Colonial Power and the Maya* Malden, MA: Blackwell

WSTF (2011) Report of the Water Supply Task Force. *Governor's Water Supply Program.* The State of Georgia. Atlanta, December 2011.

Weheliye A (2005) *Phonographies: Grooves in sonic Afro-modernity*. Durham: Duke University Press

--- (2014) *Habeas viscus: Racializing assemblages, biopolitics, and Black feminist theories of the human* Durham: Duke University Press.

Weston B, J Hollibaugh, and S Joye (2009) Population growth away from the coastal zone: Thirty years of land use change and nutrient export in the Altamaha River, GA. *Science of the Total Environment* 407: 3347–3356

Wexler L (2004) *Fire in a Canebrake: The Last Mass Lynching in America.* Scribner

Wharton C (1978) *The Natural Environments of Georgia.* Atlanta: Georgia Department of Natural Resources

Whatmore SJ (2002) *Hybrid Geographies: Natures, Cultures, Spaces.* London: SAGE

--- (2009) Mapping knowledge controversies: science, democracy and the redistribution of expertise. *Progress in Human Geography* 33 (5): 587-598

White EC (1999) Black women and the wilderness. In *Literature and the Environment: A reader on nature and culture* L Anderson, S Slovic and P O'Grady, eds. New York: Longman, 316-320.

Wiggins MJ (2001) Race, Class, and Suburbia: The Modern Black Suburb as a 'Race-Making Situation'. *University of Michigan Journal of Law Reform* 35 (4): 749-808

Wright R, M Ellis, SR Holloway, and S Wong (2014) Patterns of Racial Diversity and Segregation in the United States. *The Professional Geographer* 66 (2): 173-182

Appendix A

Abbreviations

ACC	Athens-Clarke County Unified Government
ARK	Altamaha Riverkeeper
DNR	Georgia Department of Natural Resources
EJ	Environmental Justice
EPD	Environmental Protection Division of Georgia Department of Natural Resources
EPA	Environmental Protection Agency
GEFA	Georgia Environmental Finance Authority
GRN	Georgia River Network
GWC	Georgia Water Coalition
GWSP	Georgia Reservoir and Water Supply Fund
SRWA	South River Watershed Alliance
TNC	The Nature Conservancy
UOWN	Upper Oconee Watershed Network
UOWMA	Upper Oconee Watershed Management Authority
WCTF	Water Contingency Task Force
WSTF	Water Supply Task Force
YRPC	Yellow River Preservation and Conservation

Appendix B

PROJECT NUMBER: 2012-10947-0

TITLE OF STUDY: Genealogy of the Altamaha River System

PRINCIPAL INVESTIGATOR: Dr. Nik Heynen

Dear Dr. Heynen and Mr. Milligan,

The University of Georgia Institutional Review Board (IRB) has reviewed and approved your above-titled proposal through the exempt (administrative) review procedure authorized by 45 CFR 46.101(b)(2) - Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless (i) the information obtained is recorded in such a manner that human participants can be identified, directly or through identifiers linked to the participants; and (ii) any disclosure of the human participants' responses outside the research could reasonably place the participants at risk of criminal or civil liability or be damaging to the participants' financial standing, employability, or reputation.

Please remember that any changes to this research proposal can only be initiated after review and approval by the IRB (except when necessary to eliminate apparent immediate hazards to the research participant). Any adverse events or unanticipated problems must be reported to the IRB immediately. The principal investigator is also responsible for maintaining all applicable protocol records (regardless of media type) for at least three (3) years after completion of the study (i.e., copy of approved protocol, raw data, amendments, correspondence, and other pertinent documents). You are requested to notify the Human Subjects Office if your study is completed or terminated.

Good luck with your study, and please feel free to contact us if you have any questions. Please use the IRB number and title in all communications regarding this study.

Regards,

Kate

--

Kate Pavich

Human Subjects Office

627A Boyd Graduate Studies Research Center

University of Georgia

Athens, GA 30602-7411

kpavich@uga.edu

Phone: 706-542-5972

Fax: 706-542-3360

http://www.ovpr.uga.edu/hso/

Appendix C

1. Interview Guide

Date:
Location:
Interviewee:
Background Information

1. How long have you been involved in (conservation/advocacy/management) in the ARS?
2. How long have you (worked for/been active with) _____? (Georgia River Network, Altamaha Riverkeeper, South River Watershed Alliance, Upper Oconee Watershed Network, the Nature Conservancy, Department of Natural Resources, Local Water Authority)
3. What activities have you participated in with _____? (Georgia River Network, Altamaha Riverkeeper, South River Watershed Alliance, Upper Oconee Watershed Network, the Nature Conservancy) OR What are your principal activities and responsibilities as an employee of _____? (the Georgia Department of Natural Resources, Local Water Authority)

Environmental Political Engagement

1. Why did you choose to become involved in environmental politics or management?
2. Why did you choose to join _____? (Georgia River Network, Altamaha Riverkeeper, South River Watershed Alliance, Upper Oconee Watershed Network)
3. Are/have you joined any other environmental organizations? How do those experiences compare to your present involvement?

Understandings of Environmental Issues

1. What does environment mean to you? What is unique about watersheds and river systems in environmental politics/management?
2. What are the most important issues in this watershed?
3. What role does expertise play in protecting environments of the Altamaha River System?
4. How are environmental problems and social problems related?
5. What is the role of recreation in conservation and management?

Environment, Identity, and Diversity

1. What does the word identity mean to you? How would you explain your identity?
2. Do you identify with the environment? What role does identifying with the environment play in conservation and management?
3. Is your participation in environmental advocacy and management part of your identity? When did you become involved? Was your decision to become involved a result of connections you have to the environment?
4. How do you understand the idea of being "connected" to the environment? Do you feel more connected to the environment as a result of your involvement in conservation or management of environmental resources?
5. Is your identity, the same, similar, or different, to others in your organization? Does this matter to you? Why or why not? What do you think accounts for the similarities and differences among members of your organization/
6. Is identity an important consideration in how you express your environmental activism? Is diversity important for your environmental activism? OR Are environments and

identity related? Is diversity an important component of how you understand your role in environmental management?

2. Consent Form

I, _____, agree to participate in a research study titled "**A Genealogy of the Altamaha River System**" conducted by Richard Milligan from the Department of Geography at the University of Georgia (706-542-2926) under the direction of Dr. Nik Heynen, Department of Geography, University of Georgia (706-542-1954).

I understand that my participation is voluntary. I can refuse to participate or stop taking part at anytime without giving any reason, and without penalty or loss of benefits to which I am otherwise entitled. IF I DECIDE TO WITHDRAW FROM THE STUDY, THE INFORMATION THAT CAN BE IDENTIFIED AS MINE WILL BE KEPT AS PART OF THE STUDY AND MAY CONTINUE TO BE ANALYZED, UNLESS I MAKE A WRITTEN REQUEST TO REMOVE, RETURN, OR DESTROY THE INFORMATION.

The reason for this study is to understand the frameworks that people use for management, conservation, and environmental advocacy in the Altamaha River System.

I will be asked to answer questions about my opinions and experiences dealing with my engagement in environmental politics or management. The interview will not last more than two hours. I will not benefit directly from this research. No MORE THAN MINIMAL RISKS AND DISCOMFORTS ARE EXPECTED FROM THIS RESEARCH.

The interview will be taped and transcribed by the researcher. The tapes will enable the researcher to accurately account the conversation we have. The audio files will be securely stored in on a password-protected computer and will be destroyed at the end of the research project. The tapes will only be made available to the researcher. The researcher will transcribe the tapes. ALL TRANSCRIPTS WILL BE KEPT INA SECURE LOCATION UNTIL THEY ARE DESTROYED AT THE END OF THE RESEARCH PROJECT.

The only people that will know that I am a research participant are the researcher, Richard Milligan, and research advisor, Dr. Nik Heynen. No individually-identifiable information about me, or provided by me during the research, will be shared with others without my written permission UNLESS REQUIRED BY LAW.

The researcher will answer any further questions about the research, now or during the course of the project and can be reached by telephone at 706-542-2926.

I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

Richard Milligan	_____	_____
Name of Researcher	Signature	Date
Telephone: 706-542-2926		
Email: ramjr@uga.edu		
_____	_____	_____
Name of Participant	Signature	Date

Please sign both copies, keep one and return one to the researcher.

Additional questions or problems regarding your rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia, 612 Boyd Graduate Studies Research Center, Athens, Georgia 30602-7411; Telephone (706) 542-3199; E-Mail Address IRB@uga.edu

3. Participant Observation Protocol

Date:
Location:
Main Activity:

General Observations:

a. Observed demographics: gender, age, race, residence
b. Participant activity – what are people doing?
c. Observed conversations

Informal conversations with people, general questions:

a. Why are you participating, how long?
b. How often do you participate in these kinds of activities?
c. Are there some activities they are more likely to participate in? Which ones? Why?
d. Why is conservation or environmental advocacy important to you?

More direct questions if participant seems interested in talking:

a. Do you participate in other organizations?
    a. If not, why do you participate in this organization and not others?
    b. If so, why do you participate in multiple organizations?
b. What is your definition of the environment?
c. What are the most important environmental issues in this watershed?
d. How do these environmental issues relate to other social issues?
e. Are certain people more likely to participate in these events? Are there barriers to participation for others?

My participation:

a. What am I doing?
b. How are people responding to me as a volunteer and student researcher?
c. What is my comfort in talking to people about things related to my research?
d. Do I feel like an insider or outsider or both and how do others see me?
e. What has been productive and what has not in terms of interacting with or observing people?

4. Verbal Consent Guide

Hello, my name is Richard Milligan and I am doing a research study under the direction of Dr. Nik Heynen, in the Department of Geography at the University of Georgia. This research study is about the environmental politics of management and conservation in the Altamaha River System. I am trying to gain a better sense of how people understand their roles in environmental politics, advocacy, and management. The purpose of this observation is to ascertain who is involved and why. I will ask questions about your reasons for being involved, your relationship to the watershed, and how you understand the terms and stakes of conservation and management of resources in the Altamaha River System. I will be observing your participation in this event/activity with (Georgia River Network, Altamaha Riverkeeper, South River Watershed Alliance, Upper Oconee Watershed Network). I may also ask you some question about your experiences working with the (Georgia River Network, Altamaha Riverkeeper, South River Watershed Alliance, Upper Oconee Watershed Network). This should only take 15 minutes of your time. Your participation is voluntary; you may refuse TO participate or stop participating at any time without penalty or loss of benefits to which you are otherwise entitled. You do not have to answer any questions you do not want to answer. There are MINIMAL risks or discomforts expected from participation, SUCH AS THE UNLIKELY EVENT THAT SECURELY STORED FILES ARE STOLEN OR SLIGHT DISCOMFORT FROM DISCUSSING SENSITIVE TOPICS LIKE GROUNDS FOR EXPERTISE, INEQUALITY, OR RACISM. Your participation is confidential. Any individually-identifiable information about you will be kept confidential UNLESS REQUIRED BY LAW. The results of the research study may be published, but your name will not be used. Your individually-identifiable information will not be associated with your responses in any published format WITHOUT YOUR WRITTEN PERMISSION.

Do I have your permission to proceed?

Thank you for answering my question(s) today.

If you have any questions regarding this study, please call me at (or e-mail me at) 706-542-2926.

If you have any questions or problems about your rights as a research participant, please call The Chairperson, Institutional Review Board, University of Georgia at 706-542-3199.

5. RECRUITMENT SCRIPT

EMAIL:

Dear _____,
My name is Richard Milligan, and I am conducting a research project under the direction of Dr. Nik Heynen, in the Department of Geography at the University of Georgia. The research study is about the environmental politics of management and conservation in the Altamaha River System. I am contacting you because you are a good candidate for participation in the study. The purpose of the study is to understand the terms on which conflicts over resources in the Altamaha System are debated. I am trying to gain a better sense of how people understand their roles in environmental politics, advocacy, and management.
Participation in this research would entail an interview that should not last more than about two hours. The questions will revolve around your relationship as a manager or environmentalist to the river system and your understanding of the river system's connections to other social, political, and economic issues. I will make audio recordings of these interviews.
Participants are eligible for the study if they are over eighteen years of age and are involved in environmental advocacy, conservation, or management in the Altamaha River System. I obtained your contact information from the website of your organization/I obtained your contact information from _____ (name of referee) at _____ (environmental organization/management agency).
If you would like to participate in this research, please contact me at your earliest convenience so we can arrange an interview.
Sincerely,
Richard Milligan, Department of Geography, University of Georgia
(706) 247-1474
ramjr@uga.edu

TELEPHONE/IN-PERSON:
Hi, my name is Richard Milligan. I'm a doctoral student at the University of Georgia in the department of geography. My advisor is Nik Heynen. I'm doing research on environmental

politics in the Altamaha River System, and I would like to know if you are interested in participating.

The point of the study is to get a better understanding of how environmentalists and managers understand conflicts of resources in the Altamaha system. The research is meant to elucidate the terms of debates over resources in the Altamaha system and how people understand their roles as environmental advocates, conservationists, and managers.

Participation in this research would entail an interview that should not last more than about two hours. The questions will revolve around your relationship as a manager or environmentalist to the river system and your understanding of the river system's connections to other social, political, and economic issues. I will make an audio recording of the interview.

Participants are eligible for the study if they are over eighteen years of age and are involved in environmental advocacy, conservation, or management in the Altamaha River System. I obtained your contact information from the website of your organization/I obtained your contact information from _____ (name of referee) at _____ (environmental organization/management agency).

Are you interested in participating in this research?

[ii] The Georgia River Network is a 501(c)3 nonprofit that supports some 35 watershed organizations throughout the state, fosters strategic communication and cooperation between them, and works to establish "watershed groups in all watersheds across Georgia" (GRN 2011). Boasting representation of more than a quarter million Georgians, the Georgia Water Coalition is comprised of 180 partner organizations not necessarily focused on water issues themselves but nonetheless invested in the protection, maintenance, and "fair" management of water resources (GWC 2011). This coalition formed in 2002 in response to the threat of legislative changes to Georgia's legal framework for permitting water withdrawals that would have opened the door to private water markets and trading water permits. Georgia's legal structure for the allocation of water to particular users is a complex and contradictory system known as *modified riparian right*, in which only *riparians* (people who own property adjacent to a river) have a right to use the water (*pure riparian right*), and they are only limited in this use should a court deem the use "unreasonable." In this system municipalities are treated like any other riparian user even though they withdraw, treat, and distribute water for sale, a use that might be deemed unreasonable if conducted by a private corporation. This indeterminacy has been a deterrent to private water markets in Georgia in the past, though increasingly frequent shortages could encourage private risk into such ventures (Dellapenna 2005).

[iii] For example, the Georgia River Network claims the organization was "born on the banks of the Oconee River near Dublin, dreamed up by a group of guys who loved fishing and paddling and who wanted to protect Georgia's river treasures" (GRN 2012). The point here is not to dispute these stories, but to indicate the tendency to employ populist language for organizations that are in fact part of a coordinated effort of federal agencies and large private donors.