

Political Economy of Agriculture in the Yazoo Delta: How Federal Policies Shape
Environmental Quality, Livelihood Possibilities and Social Justice

A DISSERTATION
SUBMITTED TO THE FACULTY OF THE GRADUATE SCHOOL
OF THE UNIVERSITY OF MINNESOTA
BY

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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

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January, 2010

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Acknowledgements

As with any project like this, the list of people to thank is long and yet incomplete. The idea for the project emerged out of many trips to the Delta and countless hours of conversations with my colleagues in conservation at the time. Most important among these were Charles Baxter, Ron Nassar and Bill Uihlein at the Vicksburg office of the US Fish and Wildlife Service, to whom I am very grateful. Without them, this project would never have materialized.

Several people were very helpful during the research phase of the project. I am indebted to Charles Camillo, the historian of the Mississippi Valley Division of the Corps of Engineers who was instrumental in helping me navigate the archives and make initial contact at the Corps. Charles also let me hone my interview skills practicing on him, which was very kind. Ray Aycock and others at the Jackson Office of the US Fish and Wildlife Service were helpful in providing contacts, logistical help and hours of intellectual and emotional support throughout the process. Fish and Wildlife Service employees Helen Whiffen, Dale Yocum and others were extremely generous in helping with technical issues. Several conservation colleagues including James Cummins, Bruce Reid, Meg Cooper and Trey Cook were very kind to share their contacts and their own time and ideas with me. Finally, Tom Pullens was wonderfully generous with his own time and providing on-going feedback on my ideas as well as a wealth of knowledge and contacts.

Many of my colleagues at the National Fish and Wildlife Foundation provided me with wonderful support before and during the dissertation process. In particular, I could not have possibly completed the dissertation without Neal Feeken to provide emergency proofreading services and Donn Waage to provide intellectual support.

So many of my fellow graduate students made contributions to this effort, I am sure that I will inadvertently overlook some. In particular Anant Maringanti, Ryan Holifield, Kristin Sziatro, Raj Reddy, Tom Buller, Annette Watson, Libby Lundstrum, Marion Traub-Werner, Tiffany Muller-Myrdahl, Tim Mennel and Jeff Young provided comments, insights and friendly ears at key times in the process.

Of course this work would not have been possible without the help on my advisor and friend Eric Sheppard who was endlessly patient and generous. My other committee members, Helga Leitner, Bruce Braun and Michael Goldman were also critical to making the project happen, each playing an important role intellectually in developing parts of the dissertation and each being generous with their time, energy and insights.

I am deeply indebted to my family members who helped with child care and logistical support throughout the research and writing of the dissertation. In particular, my father, Joe McDonald helped watch my kids, even coming with me and my infant son on a research trip. My mother Joyce McDonald and mother-in-law Suzanne Greenwald also took turns helping with the kids.

Finally, I am grateful to my immediate family and close friends who helped see the project through. Tracey Deutsch and David Chang were super stars in every way from helping with kids to proposals and everything in between. My children were patient and kind always offering to help me with my work and always offering themselves as

object lessons in what is really important. My partner Debra always believed that I could finish, especially when I did not.

Dedication

To Debra, Naomi, and Jonah

Abstract

This dissertation examines the environmental, social and economic consequences of federal flood control and agricultural policy in the Yazoo Delta, that portion of the Mississippi alluvial valley located in the state of Mississippi. It traces the history and development of the regional economy and explores its implications for economic and social justice and environmental restoration, using an approach that integrates political economy, natural resource analysis, and public policy. It contributes to several current geographic debates. First, this work brings renewed attention to the state's role in regulating agricultural production by suggesting that federal *policy* and *practices* have played important roles in determining not only what crops are planted, which plots of land they are planted on and how they will be cultivated (industrialization), but also in selecting who would farm. Second, this work addresses recent scholarship on neoliberalism and the environment. In contrast to scholarship that highlights the transformative effect of neoliberalization, this research documents a more nuanced and unpredictable dynamic. On the one hand, this work suggests that programs designed to transform nature, like the civil works program of the Army Corps of Engineers, may be less affected by neoliberal practices than those designed to regulate nature. On the other hand, this dissertation examines how and under what circumstances environmentalists deploy neoliberal rhetoric to advance their goals of creating more "public goods," like improved water quality and expanded wildlife habitat, whereas farmers use rhetoric associated with state-led regulation to argue that an entitlement approach will make them more globally competitive. Finally, this work contributes to the literature on the

environment and justice by examining the ramification of the political success of environmental justice movement. Specifically, this research details how advocates of flood control policies that would primarily benefit wealthy landowners have mobilized discourses of racial equality to suggest that federal funds should be used to support flood control rather than other measures that might more directly address racial and economic inequality.

Table of Contents

List of Tables	viii
List of Figures	ix
Chapter I: Introduction.....	1
Situating the Dissertation.....	4
Theoretical Conceptualizations at Work in the Dissertation	6
Personal Background	8
Summary of the Dissertation	9
Chapter II: The Leaching of African American Farmers in the Yazoo Delta	12
Federal Policies, State-Related Practices and Race in American Agriculture.....	13
Early Settlement Through Reconstruction.....	20
Federal Intervention and the Rise of King Cotton	34
Intervention in Agricultural Markets – The Agricultural Adjustment Act.....	38
Wartime Labor Management and Post-War Restructuring	46
Conclusion	52
Chapter III: The Development of the Regional Flood Control Infrastructure	54
Regional Background.....	57
Early Attempts at Flood Control.....	60
The Onset of Federal Involvement	69
The Beginning of Change: The Great Flood and its Aftermath.....	73
The Federal Era in the MAV	78
East vs. West the Development of the Modern MR&T Project	82
Changes in Atmosphere: The Emergence of Environmental Governance	91
Flood Protection for the Upper Yazoo Delta in the Age of Environmental Concern...	93
Conclusion	98
Chapter IV: Cotton or Cottonwood the Battle for the Future of the Yazoo Delta.....	102
Background – flood control in the Yazoo Delta	104
The Debate	116
The Debate	122
Analysis of Key Elements of the Debate	127
Conclusion	131
Chapter V: The Corps and Environment: Friend or Foe?.....	133
The Emergence of Corps: Internal Cultural and Political Constraints	135
The Corps and National Water Resources Planning: External Constraints	138
The Corps and the Periphery: The Political Geography of Water Projects	142
Science and the Public Interest	146
Change and the Corps, Can Bureaucracies Change?	151
Neoliberalization of the Corps?	159
Conclusion	163
Conclusion	165
Summarizing the Dissertation’s Conclusions	166
Future Directions	174
Bibliography	178

Appendix I – Methodology	185
Personal Background (the baggage)	185
Methods Used	185
Conclusion	195
Appendix A – Sample Interview Guide	196
Appendix B-List of Interviews Conducted	199

List of Tables

Table 1: Population of the Delta by County	25
Table 2: Delta Population by Race	27
Table 3: Cultivated Acreage in the Mississippi Delta 1850-1930	59

List of Figures

Figure 1: Map of Mississippi	22
Figure 2: The counties of the Yazoo Delta	66
Figure 3: An outdoor model of the Greenville Bends.....	84
Figure 3 The Congressional Approved modifications to the Jadwin Plan.....	88
Figure 5: The Yazoo Backwater Area	94
Figure 6: The Mississippi Alluvial Valley with the Yazoo Backwater	108
Figure 7: Trends of the six major crops harvested in the Yazoo Delta.....	110
Figure 8: Southern portion of the Yazoo Delta, changes in forest cover.....	111
Figure 9: Average Price of Cotton 1909-2005.....	123

Chapter I: Introduction

In this dissertation I examine the environmental, social and economic consequences of federal flood control and agricultural policy in the Yazoo Delta, that portion of the Mississippi alluvial valley located in the state of Mississippi. The natural and human history of the Yazoo Delta makes it a pertinent place to study the relationships between federal policies, social and economic inequality, and environmental quality. At the heart of this history is the region's relationship with the Mississippi River. The river's annual spring flooding is at once the source of the inexhaustibly fertile soil that has enabled the region's farmers to develop a cotton empire and a constant threat to the area's agricultural productivity.

Since the 1930s, the Yazoo Delta's agricultural economy has been underwritten by two Federal agencies: the Army Corps of Engineers (Corps) and the US Department of Agriculture (USDA). The physical landscape of Yazoo Delta, sculpted by the Mississippi River and its tributaries, has been transformed by the Corps. The farmers of the Delta have leveraged federal resources to allow the Corps to build an unparalleled system of reservoirs and levees that attempt to control the river's flooding and protect their farms. With the essential infrastructure of flood control in place, the economic landscape has been buttressed by agricultural subsidies. While the physical results of agricultural funding are more subtle, these subsidies have been no less important in shaping the social and natural landscape.

This transformation has significantly increased agricultural productivity, but at great ecological expense. The region once contained 4.5 million acres of bottomland

hardwoods that have now dwindled to less than 500,000 (MacDonald, Frayer et al., 1979). The loss of vegetative and hydrologic diversity has severely restricted fish and wildlife habitat. Agricultural production has also taken a significant toll on environmental quality. For example, nearly every stream in the region fails to meet state water quality standards (US EPA, 2000).

Socio-economically, the Yazoo Delta is two utterly separate and unequal worlds. It is home to both large-scale, wealthy cotton farmers and one of the largest concentrations of rural African-American rural poverty in the US. Statistically, it is the poorest and most segregated section of an already poor and segregated state—Mississippi is perennially at the bottom of the list on a variety of social indicators. Yet, the region's predominantly white growers include some of the richest and most politically influential farmers in the world, mobilizing national and international alliances to guarantee their dominance as a "planter class" (Woods, 1998).

Today, tensions surrounding the river are again evident. While most of the region has adequate flood control, the lower Yazoo Backwater remains unprotected. The Corps has long planned to protect the area with a backwater pump that was not built due to lack of funding for a local cost share. In 1996, Congress waived local cost sharing for the pump and revived building plans, raising concern from environmentalists who criticize its cost and the negative effects on approximately 250,000 acres of wetlands. The lower Yazoo is a useful focus for my work both because it provides a hydrologic contrast with areas protected from flooding and because the debate over the pump has produced a fascinating window into how environmental issues and social and economic inequality

enter public discourse. The Yazoo Delta, then, is a place where environmental degradation cannot be disentangled from the region's social and economic context.

The goal of my project was to examine federal agricultural and flood control policies and practices in the Yazoo Delta, to determine whether and how the federal government is implicated in creating and perpetuating social inequality and environmental degradation. By paying special attention to connections between these policies, social inequality and environmental degradation, I seek to make such issues more central to natural resource management. At heart, my work tries to answer the question: is it possible that the same federal programs that tamed the river and produced such prosperity have also aggravated the region's historic inequalities and created new environmental injustices?

Specifically, I sought to answer three questions:

- Do federal agricultural and flood control policies aggravate economic and racial inequities and negatively affect regional environmental quality disparately along racial lines?
- What key internal and external forces drive the ways that USDA and the Corps implement agricultural policy and flood control projects in the Yazoo Delta?
- Do the specific discourses around nature and race that enter into debates over flood control and agricultural intensification serve to obscure racial and economic inequality by pitting environmental and agricultural interests against one another?

Situating the Dissertation

As a whole, my work seeks to shed light on the persistent racial, economic and environmental contrasts in the Yazoo Delta. It traces the history and development of the regional economy and explores its implications for economic and social justice and environmental restoration, using an approach that integrates political economy, natural resource analysis, and public policy. Beyond the details of the case study, I seek to contribute to several current geographic debates.

First, with respect to scholarship in agricultural geography, particularly in regard to industrialized farming of row crop commodities in the U.S., I seek to bring renewed attention to the state's role in regulating production. Agricultural geographers, sociologists and others widely acknowledge the important role played by the state in the development and governance of modern, industrial agriculture (Mann and Dickinson, 1980; Goodman, Sorj et al., 1987; Friedmann, 1991; Friedmann, 1994; McMichael, 1994; Marsden, Munton et al., 1996; Page, 1996). Despite this basic acknowledgement, exploration of the state's role in regulating agriculture production in the US through price supports and production control systems has been limited in the agricultural geography literature.¹ Specifically a series of questions have been neglected. First, there is little understanding of how commodity subsidies and other forms of monetary support for farmers have affected the development of the current industrialized agricultural system in the US. Second, little attention has been paid to the practices used to distribute subsidies,

¹ In the mid-1980s, Marsden, Munton, Whatmore, and Little Marsden, T., R. Munton, et al. (1986). "Towards a Political Economy of Agriculture: A British Perspective." International Journal of Urban and Regional Research **10**: 498-521. identified the relationship between agriculture and the state as one of the four major areas of inquiry characterizing a political economy approach to agriculture. However, they acknowledged that there was little research in the area and called for additional attention.

technical assistance and other aid to farmers. Finally, little attention has been paid to the on-the-ground results of subsidies, particularly as related to how agricultural policy relates to such natural resource issues as flood control or water quality. My research suggests that Federal *policy* and *practices* have played important roles in determining not only what crops are planted, which plots of land they are planted on and how they will be cultivated (industrialization), but also in selecting who would farm.

Second, I address recent scholarship on neoliberalism and the environment. In contrast to scholarship that tends to treat neoliberalism as a separable moment of governance, I take a longitudinal perspective to examine its intersection with pre-existing practices. Following the Yazoo Pumps Project for nearly 70 years, from its inception in 1941 to what might be its ultimate demise in 2008, enables me to attend to whether the shift from a state-led to a putatively market-oriented regulatory regime has affected the form of and political support for the Project. In contrast to scholarship highlighting the transformative effect of neoliberalization (Holifield, 2004; Prudham, 2004; Robertson, 2004b; 2006), to the detriment of both natural resources and human health, my research documents a more nuanced and unpredictable dynamic. On the one hand, my work suggests that programs designed to transform nature, like the civil works program of the Army Corps of Engineers, may be less affected by neoliberal practices than those designed to regulate nature. Following O'Neill (2006), I suggest that the Corps itself – because of its structure and ability to develop deep regional connection that infiltrate the political and social hierarchy, both regionally and in Washington DC – is able to selectively resist neoliberalism (and other changes in political climate). On the other

hand, my dissertation examines how and under what circumstances environmentalists deploy neoliberal rhetoric to advance their goals of creating more “public goods,” like improved water quality and expanded wildlife habitat, whereas farmers use rhetoric associated with state-led regulation to argue that an entitlement approach will make them more globally competitive.

Third, I seek to contribute to the literature on the environment and justice by examining the ramification of the political success of environmental justice movement. Specifically, my research details how advocates of flood control policies that would primarily benefit wealthy landowners have mobilized discourses of racial equality to suggest that federal funds should be used to support flood control rather than other measures that might more directly address racial and economic inequality.

Theoretical Conceptualizations at Work in the Dissertation

On the whole, the dissertation is more empirically based than theoretical in its approach: The theoretical ideas drawn on are often relegated to the footnotes. This reflects my own inclination towards the empirical, but also my belief that I needed to develop a strong empirical narrative to truly understand this material. Nevertheless, a theoretical foundation underlies my arguments in the dissertation. Specifically, I have tried to work through three central concepts: the state, race, and nature.

I conceptualize the state as a place of contestation between different interests, which arise both from society and from the apparatuses of the state itself, not as a transparent or monolithic institution. I seek to understand the state and society as permeating one another (cf Mitchell, 1991), rather than inscribing boundaries between

the state as an institution and society. Drawing on Poulantaz (1978), I thus conceptualize the state as a relational entity. This allows for a dynamic articulation between the state and society, and opens up the opportunity to examine how authorizing legislation, mission, and connections to outside interest groups, among other factors, shape institutional dynamics in different ways. This mode of analysis also holds the possibility for recognizing how institutional capacities, cultures, and self-interests, as well as the personalities of key individuals in and outside the state apparatus, can have significant implications for the ways regulations are promulgated and policy is implemented. This approach allows me to understand an individual, organization or agency in terms of both their specific engagement with the state and the ways that their unique position informs that engagement.

The history of racialized exploitation and poverty in the Delta requires that race be understood as more than a social category of inequality. As a social construct, mobilized through local social relations but also state actions, race discursively and materially produces difference, thereby regulating access to resources and power (Omi and Winard, 1994). Because of my focus on state policy as a regulator of economic opportunity, I use the concept of racial formation as my primary analytic in the dissertation. In addition, Holt (2000) is useful in explaining how, through the plantation economy, race (the dominant rubric for labor in the Delta) is always intertwined with class but never reducible to it. Following Lipsitz (1998), I conceptualize ‘whiteness’ as a social fact that provides a passport to opportunity – in the Delta particularly through land ownership. This conceptualization allows me to examine how state policy, while

ostensibly race neutral, may be constructed in ways that limit access to programs and protection for certain racialized groups (cf Kobayashi and Peak, 2000).

Finally, my formulation of nature seeks to pay careful attention to the undeniable power of biophysical processes – paying attention to nature’s agency – while also engaging with the productive political and social power of discourses of nature (cf Zimmerer, 2000). Following Lipsitz (1998), Latour (1999) and Braun and Castree (1998), I conceptualize nature and society as socially constructed categories that mask their common constitution as heterogeneous assemblages, instead of treating nature as ontologically prior to and separate from society.

Personal Background

I became enthralled with the Mississippi Delta during a series of visits in the mid-1990s, as part of a job that was focused on wetlands conservation. The place drew me in immediately, despite its resoundingly unremarkable landscape. It is one of those places where things really are as bad as people say they are. The contrasts always strike me in the Delta: the rich white farmers and the poor black farm workers; the unrelenting flatness, but topographic complexity; the huge old growth timber in a remote natural area and the miles of cotton and soy beans as far as the eye can see. The towns of the Delta bring a whole new meaning to the “right” and “wrong” side of the tracks. And the river itself, although often difficult to glimpse in the Delta, continually accompanies you: Always underfoot and, even at low water, looming large in the minds of those who live there. I was hooked, and commenced ten years of short trips and long sojourns, more

miles on dirt roads and farther from cell phone service than I care to recount, with a mild southern accent that arrives unwittingly and reminds me that its time to go back north.

In addition to my initial attraction and now deep connection to the region itself, I came to this project with a long history of being involved in a certain type of environmental politics. I came with a commitment to examining the connection between natural resource conservation and economic opportunities for the less privileged, which in this region is almost always correlated with race; and as a veteran Corps of Engineers watcher, tracking environmentalists' efforts to alternately change the way the Corps does business and to highjack its budget and transform it into an environmental restoration agency. The Corps is the agency that all environmentalists (and many others) love to hate. Yet, despite identifying myself with this community and having many gripes with the Corps, I also have an odd soft spot for those who work there.

In sum, I came to this research as an environmentalist who believed strongly that federal natural resource policy in the Yazoo Delta had much to do with the livelihood possibilities for those who lived there, and whose approach is strongly influenced by my experiences with and connections to people and places in the Delta.

Summary of the Dissertation

The dissertation begins with an historical chapter that examines the development of the agricultural economy in the Yazoo Delta, highlighting the role of federal agricultural policy and the racial dynamics of the region. Specifically, the chapter suggests that USDA practices, for both providing technical assistance to farmers and for distribution of subsidy payments, buttressed planter control of land and labor at the

expense of African American tenants and sharecroppers. This federal infusion of money into the regional economy sparked the industrialization of farming practices that would, over the next forty years, end the practice of tenant farming. This chapter is designed to address the agricultural geography literature by detailing the role of the state in regulating farming and racial dynamics. This chapter also brings attention to one of the major players in agriculture, flood control and racial politics in the region, the Delta Council. The Delta Council, a regional advocacy organization similar to a chamber of commerce, and comprised of planters, local agri-business people, and representatives of local government, represents the region's interests with politicians and agency bureaucrats at the state and federal scales. Wielding significant real or perceived economic and political power, the Delta Council has come to symbolize the old political and economic order in the region. In this role, it serves to sanction local political activities, candidates, and initiatives that are considered pro-agriculture. At the same time, it is widely reviled by environmentalists, civil rights activists and others who see it as a vestige of the plantation economy and major impediment to change in the region.

Chapter three complements the preceding one by detailing the emergence of a federal flood control infrastructure that enabled the development of the agricultural economy. The chapter focuses on the role of the state in the transformation of the region and the emergence of different factions contesting that transformation. This chapter also provides an overview of the region's environmental history, examining the retreat of the floodplain forest that accompanied the development of the flood control and drainage systems. Finally, this chapter provides some insights into the institutional framework for

flood control in the region, explicating the roles of and interconnections between local, state, and federal state actors.

Chapter four narrates the debate over the Yazoo Pumps Project, one of the final elements of the Corp's decades long plan to protect the Mississippi Alluvial Valley from flooding. This debate, which began when the project was authorized in 1941 and ended, presumably, in the summer of 2008, provides a window into the transition from a state-led regulatory model to one that is more associated with neo-liberalism. Yet in many ways this Project also provides a counter example to accounts of a pervasive neoliberalization of the environmental arena. The history of this project also provides interesting illustrations of the changing ways in which society, as well as the government, have valued nature and nature's 'services', and of how race came to be revalued and mobilized by proponents of flood control seeking to justify the Pumps as redressing racial and economic inequality.

Chapter five turns attention to the Corps of Engineers itself. I explore whether there are characteristics of the Corps that help explain why and how projects like the Yazoo Pumps remain in bureaucratic limbo for more than sixty years. Examining how the Corps adapts to or contests change imposed from Congress or the administration with respect to the environment and neoliberalism, I seek to shed light on how the agency's geopolitical structure, authorization, culture, and political connections create an uneven bureaucratic landscape in which individual district offices adapt differently to agency-wide mandates.

Chapter II: The Leaching of African American Farmers in the Yazoo Delta

Federal subsidies in US agriculture have received considerable attention in recent years. An active NGO sector has brought attention to the environmental and fiscal implications of agricultural policy; and Federal subsidies have also been blamed for the dumping of US agricultural products on global markets, undermining third world farmers and bringing the Doha Round of trade negotiations to a virtual standstill. Much has been written about large farmers gaining a disproportionate share of Federal largesse, about non-farmers receiving large payments for crop production, and about whether these payments serve the purposes described in legislation. Notwithstanding this attention to the macro-level, however, little attention has been paid to how subsidies have shaped both the economic landscape as well as those who labor to farm it.²

In this chapter, I examine cotton farming in the Yazoo Delta of the Mississippi before and after Federal intervention in agricultural production and markets. My analysis shows that the particular ways in which Federal payments to increase farm incomes were distributed, in combination with the mechanization of cotton production, meant that Federal agricultural policy played a role in determining not only the commodities grown and how they would be cultivated, but also who would farm. Specifically, local practices surrounding Federal agricultural policy profoundly shaped the racial formation of the Delta, driving out the African American sharecroppers who were once a force in its cotton production.

² On the other hand, there is no shortage of narrative historical accounts of U.S. agricultural policy. For a sampling of these see Cochrane, W. W. (1958). Farm prices, myth and reality. Minneapolis,, University of Minnesota Press., Danbom, D. B. (1995). Born in the country : a history of rural America. Baltimore, Johns Hopkins University Press.

The chapter is organized as follows. First, I conceptualize the relationship between Federal policies, the local-level practices of policy implementation, and the racial composition of agricultural labor. Second, I trace the development of the sharecropping system, from early settlement in the region through the civil war and reconstruction. I detail the rise, despite considerable social and economic challenges, of the African American farmer in the Yazoo Delta and, at the same time, the emergence of a starkly segregated, hierarchical, and violent racial formation. Third, I discuss the initial federal interventions into the regional agricultural economy, the end of economic opportunity for African American farmers, and the appearance of the King Cotton plantation. In the fourth section, full Federal intervention in agricultural markets is discussed in relation to the Agricultural Adjustment Act passed in 1933. The fifth section briefly covers the period from World War II onward, detailing the increasing federal role in price supports, labor control, and mechanization. The conclusion discusses what this case can contribute to understanding the role of state regulation of agriculture in the region's racial formation.

Federal Policies, State-Related Practices and Race in American Agriculture

Much of the extensive scholarship examining the state's role in regulating agriculture focuses on the how the state mediates between producers and their two persistent challenges: nature and the market e.g. (Goodman, Sorj et al., 1987; Marsden and Little, 1990; Lowe, Marsden et al., 1994; Marsden, Munton et al., 1996; Page, 1997).³ Farming is an inherently risky, land-based activity that rests on natural processes

³ Of course, neither state policy nor scholarship on agriculture is limited to these two areas. Yet much of state involvement in agricultural production is understood along these two axes, notwithstanding the many

and comes with a series of inevitable constraints (Goodman, Sorj et al., 1987; Page, 1996). Farmers must decide how to allocate capital investments, months in advance of bringing their product to market and with limited information on the future price of the commodity, and then wait with capital tied up in the crop while nature takes its course (Mann, 1990; Henderson, 1999). Examining the way that the agricultural sector has sought to overcome the risks associated with the natural basis of agricultural production, David Goodman, Bernardo Sorj and John Wilkinson (1987) focus on the industrialization of both agricultural production and food processing.⁴ Following Kautsky (Kautsky, 1988), this account elucidates how technology has been deployed to progressively move agricultural production out of the realm of nature and the uncontrolled, and into the manipulable industrial arena. Goodman, Sorj and Wilkinson (1987) suggest that the USDA, through the extension systems and other agencies, has played an important role in covering the costs for much of the basic research as well as disseminating this information.⁵

The unpredictability of the market is another persistent foe of the farmer. While demand for agricultural goods is inelastic, natural and political circumstances can drastically alter farmers' opportunities during any given growing season. State intervention seeks to reduce this uncertainty through a variety of mechanisms, including import taxes, marketing assistance, loans to allow farmers to delay crops sales, subsidies

programs targeting farmers and rural residents that do not directly impact production and are not aimed at market or natural risk reduction.

⁴ This work follows Susan Mann and James Dickinson (1978) and others who argue that biophysical aspects are central to understanding the particular capitalist trajectory of agriculture.

⁵ In addition to advancing knowledge on the biological basis of agriculture, Goodman et al. point out that the USDA has also supported farmers in industrialization through supporting the organizational capacity of modern farmers, including management strategies, and supporting the flow of production through fiscal credit and marketing policies.

for development of new products based on basic commodities, and price guarantees. As technology spurred agricultural production and over-production, the state extended this role by catalyzing international markets for agricultural products; integrating commodity production across national borders, and using food surpluses as a foreign policy device (Friedmann, 1989; Cochrane, 1993). Scholarship on food regimes has explored these processes in detail (Friedmann, 1989; Friedmann, 1994).

While this research has brought important insights to the relationship between farming, the state and the market, its macro level focus, on understanding agricultural *policy* in regulating the agricultural economy, overlooks the importance of how those policies are implemented locally through specific *practices*. In the Yazoo Delta, for example, the impact of the USDA's actions on the region's racial formation are best understood in terms of practices. Thus, in the summer of 1933, Congress authorized a policy allowing for direct payments to farmers willing to plow up their cotton crop (Cochrane, 1993). The policy was aimed at reducing supply (by 30%) and increasing prices, for farmers who were struggling given the economic downturn. At first blush, this goal seems unconnected to any agenda that would benefit one race over another; indeed, it could even be interpreted as benefiting African Americans because they had such a large stake in farming throughout the cotton belt. Yet implementation practices at the local scale, detailed below, disadvantaged African American farmers.

A focus on practices also brings insights into the connections between the state and civil society groups in the agricultural sector, another theme in agricultural geography. Some of the literature on state regulation of agriculture in Europe focuses on

the “Corporatist” model in which key stakeholder groups, such as commodity interests, are brought into the policy making process to participate in the crafting of agricultural legislation (Vail, 1994). Here too, state practices at the local level matter. For example, as I will discuss later, when agricultural price supports were first enacted in the U.S. in 1933, the USDA established more than 4,200 separate county-level production control committees. These committees, which worked closely with USDA to administer the agriculture programs, ensuring compliance and eligibility, and set priorities at the local level, created a natural opening for agricultural interest groups to increase their membership, and subsequently voice, by taking part in the implementation process for federal policy. For example, Paarlberg and Paarlberg explain that, nationwide, the American Farm Bureau Federation (AFBF), which was already well organized on the county level, found these new committees a great vehicle for expanding its own power base, by recruiting and organizing new dues-paying members (Paarlberg and Paarlberg, 2000). Between 1933 and 1940, the AFBF nearly tripled its membership and was able to use that power to become one of the major voices for farmers in public debates and in Congress. In the Yazoo Delta, committees were vehicles for the local power structure to influence implementation of federal policy as well as for the Delta Council, a regional group focused on promoting the agricultural economy, to become a key player in agricultural policy at the federal level.

The agricultural geography literature has also paid little attention to how the state shapes the agricultural labor market.⁶ This research has addressed how farmers’

⁶ Literature on labor in agricultural processing is a notable exception to this see Boyd, W. and M. Watts (1997). *Agro-Industrial Just In Time: The Chicken Industry and Postwar Capitalism*. *Globalising Food*. D.

increasing reliance on technology has dramatically reduced labor demand (Goodman, Sorj et al., 1987; Page, 1997), but its close attention to technology erases the insights from situations where industrialization was underwritten by state regulation of farm labor. This focus on technology also serves to homogenize agricultural labor, eclipsing racial, gender and class differences, as well as geographic variation.⁷

Of these various aspects of labor, race—an overwhelming feature of the Yazoo delta—has received particularly little attention in the agricultural geography literature. Empirical studies on the experiences, successes, and disappearance of black farmers⁸ have overlooked the role of Federal agricultural policy in reproducing racial hierarchies. Research on racial formation, catalyzed by Omi and Winant (1994), can help redress this oversight. This scholarship examines how the state, through laws (and their implementation) that have no explicit racial intent, perpetuates a hierarchical racial formation (Omi and Winant, 1994; Lipsitz, 1998).⁹ Omi and Winant conceptualize race as a social construction that changes over time in response to social and historical pressures.

Goodman and M. Watts. London, Routledge, Page, B. (1997). *Restructuring Pork Production, Remaking Rural Iowa*. *Globalizing Food*. D. Goodman and M. Watts. London, Routledge.

⁷ Margaret FitzSimmons' work on specialty crops production in the Salinas Valley makes a similar claim, suggesting that changes in technology, demand, labor formations, corporate structure, and spatial formations must be examined together. She argues passionately that "the social and spatial organization of agriculture... is elaborately developed as a consequence of intricate historical forces and contingencies." I would add the importance of state regulation to this argument.

⁸ For a sample of this work, see McLean-Meyinsse, P. and A. Brown (1994). "Survival Strategies of Successful Black Farmers." *The Review of Black Political Economy* 22(4): 73-84, Alston, L. and K. Kauffman (1998). "Up, down and off the agricultural ladder: new evidence and implications of agricultural mobility for blacks in the postbellum South." *Agricultural History* 72(2): 263-280, Hargis, P. (1998). "Beyond the marginality thesis: the acquisition and loss of land by African Americans in Georgia 1880-1930." *Agricultural History* 72(2): 241-263.

⁹ The theoretical approaches used by Omi and Winant and Lipsitz differ, yet they make a similar argument. My intervention is based on Omi and Winant, while also informed by a close reading of Lipsitz' empirical analysis.

The racial formation explains how racial identities are defined and redefined as a function of shifting social, economic, and political forces. Omi and Winant suggest that this process plays out at both macro and micro levels. The macro level addresses social structure and political projects, launched both by and in opposition to the state, while the micro level examines the everyday experiences through which race is interpolated. Omi and Winant see the state as facilitating these processes at both levels, mediating the racial hegemony that characterizes society. This hegemony transforms with "the pattern of conflict and accommodation which takes place over time between racially based social movements and the policies and programs of the state" (Omi and Winant, 1994). In short, Omi and Winant posit that the state, through a wide variety of mechanisms, including many that have no overt connection to race, shapes hegemony in the racial formation. Notwithstanding its status as a social construction, they argue that race has very real material consequences at both the individual and group level in society, in terms of enforcing a social order. They thus differentiate between race as a social classification and as a racial formation, coining the latter term to describe how socio-historical designations of race are created, reproduced and transformed.

While Omi and Winant's racial formation is a useful analytic, their analysis is focused on the national scale and the nation state. I am interested in using it at the regional scale by pairing it with an understanding of the historical and geographical complexities of racial formations in a particular place. In order to apply these ideas to a particular agricultural landscape, such as the Yazoo Delta, it is necessary to pay close attention to the particularities of place and socio-historical context, by examining the

mechanisms through which dominant groups are able to create and maintain an economic and social system of segregation that extends beyond the boundaries of the legal apparatus. As Steven Hoelscher points out, “Mississippi—the most racially restrictive and oppressive state during the entire segregation period—seems to have had fewer Jim Crow laws than most southern states” (Hoelscher, 2003, p. 658). Thus, in the Yazoo Delta, examining the socio-historical context means paying close attention to the way that racial oppression is interwoven in the social and economic relations of the plantation economy (Woods, 1998; Holt, 2000).^{10,11} Following Holt’s insistence that race be understood as intricately tied to the mode of production, the plantation economy provides a useful rubric for understanding the centrality of racialized labor in agricultural production, and therefore in the region’s social and economic order. My work suggests that given this centrality, Federal intervention in maintaining the viability of the plantation economy has also buttressed the racial formation in the Yazoo Delta.

In what follows, I examine the role that the state, specifically the USDA, played in supporting the regional agricultural economy and plantation system. Between 1914 and 1950, the USDA dramatically increased its influence over farming, moving to provide active support for U.S. farmers, both through technical assistance mechanisms and price supports. This intervention provides an opportunity to examine how a significant change in Federal policy, and state-related practices, shaped racial formation

¹⁰ Holt’s book is helpful here both because of the centrality of the economy and because he argues that in the U.S. the plantation was a typically modern form of production, foreshadowing Fordism with its focus on scientific management and maximizing output.

¹¹ Plantation economy here connotes both the pre-civil war plantation based on slavery, and the post-reconstruction plantation based on sharecropping. For a thorough discussion of the different formations of the plantation economy see Woods, C. A. (1998). Development arrested : the Blues and Plantation Power in the Mississippi Delta. London ; New York, Verso.

in the Yazoo Delta. State intervention into the agricultural arena began to create a regulatory process, governing which crops would be grown and what implements and techniques would be used to grow them. The particular ways in which agricultural price supports were administered – the bureaucratic decisions about who to write checks to, which crops would receive which types of payments, and how income support payments would intersect with crop payments – went beyond assisting farmers with the vagaries of nature and the market to effectively regulate who could enter, or stay, in the profession of producing food and fiber. Situating my study within this web of regulatory mechanisms, I find that while the history of agricultural production in the United States is the story of the disappearance of labor as technology replaced farm workers, federal policy had much to do with the specifics of how this transition took place. In the Yazoo Delta, these regulatory mechanisms supported the region’s racial formation, with the effect of removing African Americans from farming while supporting the industrialization of production.

Early Settlement Through Reconstruction

The Yazoo Delta refers to the region of northwest Mississippi that is characterized by alluvial soils deposited by the Mississippi River.¹² Approximately 200 miles long and, at its widest point 70 miles across, it is not a true “delta” but rather the floodplain formed when the Mississippi, the Yazoo, the Sunflower and several other smaller streams

¹² The Yazoo Delta contains all of ten counties (Bolivar, Coahoma, Humphreys, Issaquena, Leflore, Quitman, Sharkey, Sunflower, Tunica and Washington) and part of nine more (Carroll, DeSoto, Grenada, Holmes, Panola, Tallahatchie, Tate, Warren and Yazoo). Unless otherwise indicated statistics are for the wholly Delta counties only. However, historical data is sometimes difficult to standardize along county lines as counties were being divided as population grew.

topped their banks and spilled over into the surrounding area, leaving behind the alluvial soil that formed the foundation for the rich agricultural economy (see Figure 1).

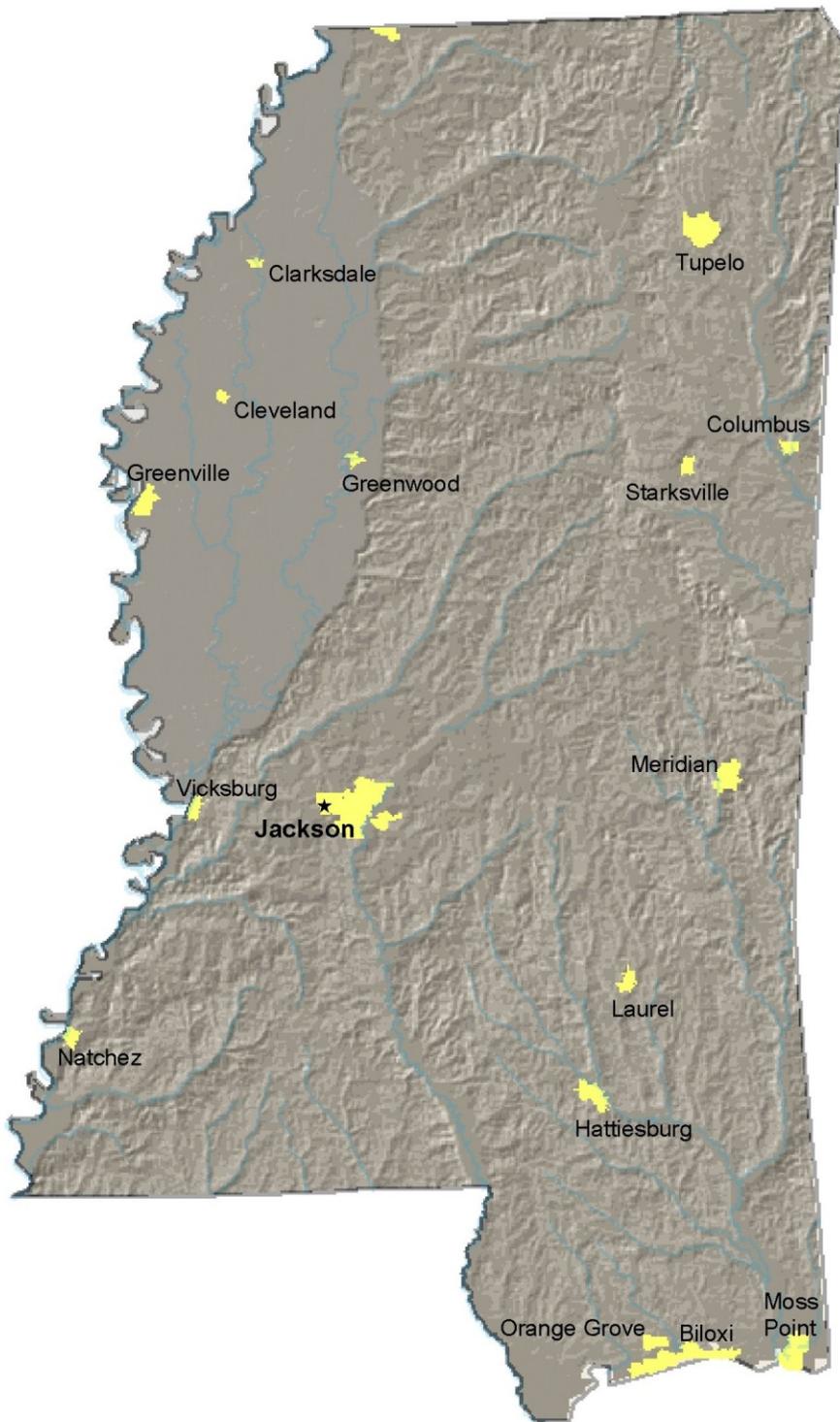


Figure 1: Map of Mississippi

Settlement increased in the 1840s, powered by slave labor. The dense trees, shrubs and vines of the alluvial floodplain made difficult work of land clearing. Further, the warm temperatures and ample rainfall – the region gets approximately 56 inches of rain a year – meant that quickly-growing vegetation constantly had to be re-cleared during the first few years of planting. Newcomers settled the highest and driest land on the natural levees of the Mississippi and the other waterways that drained the region. Because of their proximity to the river, these areas flooded nearly every spring and planters relied on slave labor to build private levee systems to manage the high water. Despite the natural challenges, the area lent itself to large-scale farms from the beginning of settlement – some as large as 10,000 acres (Cobb, 1992; Saikku, 2005). Successful settlers tended to be wealthy, because of the tremendous capital requirements for slaves, and quickly amassed large land holdings.¹³

During the 1850s the Delta's population expanded rapidly, growing from 20,640 in 1850 to 49,972 in 1860 (Table 1). Approximately 87% of “settlers” were actually African American slaves (Table 2). With the increased population came increased cotton production, land values and land speculation. Most estimates of agricultural expansion suggest that only about 10 percent of the Delta was cultivated by 1860, yet nearly all the land was in private ownership (Cobb, 1992).¹⁴

¹³ There were historical periods in which the barriers to land ownership were reduced and there were increases in smaller scale, family run farms, more typical of frontier settlement in other parts of the country. Rather, it is to suggest that it is not a place in which agriculture evolved from a traditional small, family farm structure (cf Henderson, G. L. (1999). *California & the fictions of capital*. New York, Oxford University Press. and Guthman, J. (2004). *Agrarian dreams : the paradox of organic farming in California*. Berkeley, University of California Press. both writing on agriculture in California).

¹⁴ Early Delta settlers, like many American frontier farmers in other regions, bought more land (at bargain rates) than they could possibly cultivate, holding on to the land for future cultivation or for speculation. Taxation was primarily based on slaves, so land speculation was affordable for many.

Table 1: Population of the Delta by County

Counties	1830	1840	1850	1860	1870	1880	1890
Bolivar		1,356	2,577	10,471	9,732	18,652	29,980
Coahoma		1,290	2,780	6,606	7,144	13,568	18,342
Humphreys							
Issaqueena			4,478	7,831	6,887	10,004	12,318
Leflore						10,246	16,869
Quitman						1,407	3,286
Sharkey						6,306	8,382
Sunflower			1,102	5,019	5,015	4,661	9,384
Tunica		821	1,314	4,366	5,358	8,461	12,158
Washington	1976	7,287	8,389	15,679	14,569	25,367	40,414
Total	1976	10,754	20,640	49,972	48,705	98,672	151,133
Counties	1900	1910	1920	1930	1940	1950	1960
Bolivar	35,427	48,905	57,669	71,051	67,574	63,004	54,464
Coahoma	26,293	34,217	41,511	46,327	48,333	49,361	46,212
Humphreys			19,192	24,729	26,257	23,115	19,093
Issaqueena	10,400	10,560	7,618	5,734	6,433	4,966	3,576
Leflore	23,834	36,290	37,256	53,506	53,406	51,813	47,142
Quitman	5,435	11,593	19,861	25,304	27,191	25,885	21,019
Sharkey	12,178	15,694	14,190	13,877	15,433	12,903	10,738
Sunflower	16,084	28,787	46,374	66,364	61,007	56,031	45,750
Tunica	16,479	18,646	20,386	21,233	22,610	21,664	16,826
Washington	49,216	48,933	51,092	54,310	67,576	70,504	78,638
Total	195,346	253,625	315,149	382,435	395,820	379,246	343,458

Table 1: Population of the Delta by County (continued)

Counties	1970	1980	1990	2000
Bolivar	47,004	45,965	41,875	39,965
Coahoma	39,332	36,918	31,665	30,157
Humphreys	13,632	13,931	12,134	11,058
Issaquena	5,554	2,513	1,909	2,253
Leflore	40,930	41,525	37,341	37,085
Quitman	15,539	12,636	10,490	10,025
Sharkey	15,223	7,964	10,484	6,493
Sunflower	35,319	34,844	32,867	33,937
Tunica	14,853	9,652	8,164	9,014
Washington	67,239	72,344	67,935	62,060
	294,625	278,292	254,864	242,047

Source: Minnesota Population Center. National Historical Geographic Information System: Pre-release Version 0.1. Minneapolis, MN: University of Minnesota 2004. <http://www.nhgis.org>

Table 2: Delta Population by Race

Year	Percent White	Percent African American
1830	39.7	60.3
1840	22.0	78.0
1850	16.7	83.3
1860	13.4	86.6
1870	19.7	80.3
1880	16.9	83.1
1890	12.9	87.1
1900	12.3	87.7
1910	13.8	86.1
1920	18.8	81.1
1930	26.0	73.9
1940	26.4	73.5
1950	31.1	68.9
1960	35.0	65.0
1970	40.6	59.1
1980	38.8	60.5
1990	37.6	61.8
2000	31.6	68.4

Source: Minnesota Population Center. National Historical Geographic Information System: Pre-release Version 0.1. Minneapolis, MN: University of Minnesota 2004.
<http://www.nhgis.org>

The outbreak of the Civil War in 1860 disrupted agricultural operations throughout the Yazoo Delta. The war was devastating to the economy as the fighting destroyed basic infrastructure – notably, an expensive and recently completed comprehensive levee system. Planters reestablishing cotton operations after the war also faced difficulties from low cotton prices and lack of adequate credit. The most persistent challenge, however, was to develop a new system of securing and maintaining enough

labor to cultivate cotton. From 1865 until the cotton crop was largely mechanized in the 1950s, maintaining an adequate labor force was a persistent worry for Delta planters.¹⁵

When agricultural operations resumed in 1867, planters and freed people began the twin tasks of developing a new labor regime and reworking the social order, including the racial formation, without the legal apparatus of slavery. Over a twenty-year period, planters and freedmen and women experimented with different capital-labor relations as part of a cultural and economic balancing act performed on the stage of racial domination. This reworking of the labor system was further complicated by planters' credit problems, stemming from both the shortage of solvent banks and their reluctance to lend to planters with only devalued land for collateral. In the Yazoo Delta, scarce capital was made scarcer by increased taxes, stemming from the levee board's efforts to pay off the bonds that had financed the levee system destroyed in the war.

This labor reorganization created economic opportunities for African Americans, albeit without political or social advancement, because of their importance in the regional economy. As a result, while African American political power was fleeting,¹⁶ African American land ownership and economic power expanded between the end of the civil war and the turn of the century, as a revitalized and in some ways reconstituted planter class emerged to define the post-bellum plantation.¹⁷

¹⁵ It is important to distinguish actual labor scarcity, which was sometimes a concern, from the scarcity of labor available at a given (often low) price, which was almost always a concern see Woodruff, N. E. (1990). "Pick or Fight: The Emergency Farm Labor Program in the Arkansas and Mississippi Deltas During World War II." *Agricultural History* 64(2): 74-85..

¹⁶ The state of Mississippi (and of course other southern states) accomplishes this in the face of federal mandates for some form of equal protection. So, in the largest sense, the state is at play here, but this is not the intervention in the agricultural economy that I am trying to examine.

¹⁷ There is considerable debate in the history literature about the continuity between pre-civil war landowners and the entrepreneurs of the "New South." The debate turns on whether former slaveholders

In addressing the need for agricultural labor, many planters sought to reestablish their cotton operations by means of labor and capital relationships, characterized by strict control of capital over labor that had existed before the end of slavery. To do so, planters tried different tactics including using “work gangs” of African Americans and bringing other racial minorities to the Delta to provide labor.¹⁸ Planters also turned to the state to address their problems with labor, and credit.

In 1865, immediately after the war ended, legislatures all over the south enacted Black Codes, a series of laws, slightly different in each state, that sought to circumscribe Freed people’s rights to work and live in a place of his/her choosing.¹⁹ In Mississippi, these laws provided a number of mechanisms—forced apprenticeships, mandatory contracts, residence and work permits, as well as fines and other punishment for leaving the plantation—to keep free men and women on the plantations. In Mississippi and other southern states, these laws provided the legal framework for both forced labor and the racialized social hierarchy. While many of these laws were repealed when Mississippi

held on to their land and reestablished the regional power structure or is that task was accomplished by a new, more entrepreneurial group of businessmen. C. Van Woodward’s Woodward, C. V. and American Council of Learned Societies. (1971). "Origins of the new South, 1877-1913." from <https://www.lib.umn.edu/slog.phtml?url=http://hdl.handle.net/2027/heb.00007> , suggests that the planter class “took a terrific tumble” This has been disputed by historians who used continuity studies to find connections between the old and new power bases. For more on this debate see Woodman, H. (2001). "Political Economy of the New South: Retrospects and Prospects." *The Journal of Southern History* vol **LXVII**(4).

¹⁸ These gangs called for a small, self-organized groups of African Americans to work as a unit. Because these gangs smacked of slavery, they were unpopular with workers. Other labor experiments included Chinese workers, Italian workers, and prison labor. Cobb (1992) and Barry (1997) Describe experiments to bring Chinese and Italians to the Delta as agricultural laborers. While there remains a population of Italian farmers in the Delta, neither of these experiments was successful in establishing a new pool of racialized labor that could be easily controlled.

¹⁹ The Black Codes were enacted during the period between the end of the civil war and when the confederate states formally reentered the Union, thus they did not initially comply with the federal requirements for equal protection. They a suite of laws governing terms of employment, including forced apprenticeship for African American boys and girls, as well as conditions under which African Americas could change residence.

entered the Union, some remained on the books until after the turn of the 20th century (Cobb, 1992).

In 1867, the Mississippi legislature passed the Crop Lien Law to address the tight credit market for agricultural operations. The law guaranteed a first lien on the crop to anyone providing loans or advancing supplies for its production. The law was aimed at attracting capital into agriculture from merchants and other investors, but also granted lien rights to landlords who provided advances to their laborers. In doing so, the crop lien law also helped planters in their efforts to maintain a docile labor force. For the laborers, however, the law provided no guarantees of income, giving planters full control over the terms of the settlement at the end of the crop year (Cobb, 1992; Woods, 1998; Willis, 2000). Because planters kept track of all accounts throughout the growing season,²⁰ and often did not share information about debt with tenants, tenants were in a difficult position when it came to settlement time. There are numerous reports of tenants unable to claim either wages or their share of the crop, with the entire crop then applied to pay off their financial obligations (Daniel, 1972; Cobb, 1992; Woods, 1998).

While the white power structure used legal mechanisms to maintain the inferior social and economic position of freed slaves, the critical need for labor, along with changes in the tax structure and opportunities for African American to earn money outside of sharecropping, created a real economic opportunity for freed slaves to own land in the Delta. These conditions meant that, in the decades immediately following the

²⁰ Through this system, planters provided not only the necessities for growing cotton, but also food, shelter, clothing and other good to sharecroppers.

Civil War, sharecropping²¹ was not a sentence to perpetual debt, but an actual rung on the agricultural ladder that could lead to independence and land ownership.²²

The sharecropping system provided what some historians termed a “middle path” between the desire of the planter to remain in charge of the plantation and the needs of the freemen to have more autonomy.^{23,24} This system called on the planter to provide seed, land, draft animals, fuel (which the tenant cut from a nearby wood lot) and farm implements, with the sharecropper obligated to pay for his work with half his crop.²⁵ Because the planter had such a large investment in the crop, planters exercised what one later USDA study described as “careful supervision” (Boeger and Goldenweiser, 1916) over all aspects of cultivation and harvest.²⁶ Yet, while whites clearly enjoyed the upper hand, concerns over scarcity of labor drove Delta planters to avoid heavy handed, abusive behavior because it could cost them the labor they needed.

During the 1870s, the slow and sporadic adoption of sharecropping was hastened by a declining agricultural economy. The agricultural depression in 1873 pushed the

²¹ There were three notable forms of tenancy – cash tenants, share tenants and share croppers. The resources that each tenant brings to the relationship differentiate these systems. The proportion of each type of tenant varied by county and by year. The overall trend, however, after the turn of the century was away from cash rent and towards sharecropping.

²² Willis argues that freed slaves, despite the difficulties they faced, quickly learned to be strong negotiators in labor discussions. He suggest that the opportunity to move easily to another landowner created favorable conditions for African Americans in their negotiations with landowners.

²³ Gavin Wright describes sharecropping as growing out of a “market process;” language he uses to suggest that the sharecropping system emerged as a balance between planters’ and freed people’s interests Wright, G. (1986). Old South, New South: revolutions in the southern economy since the Civil War. New York, Basic Books., p.86.

²⁴ It is important to point out, as discussed later in this chapter, that sharecropping was seen by African Americans at the time as a stepping stone to landownership. Certainly, with the benefit of hindsight, it is difficult to see sharecropping as a middle ground.

²⁵ Eventually, the sharecropper would also contribute half of the fertilizer used.

²⁶ Sharecroppers made up the largest portion of tenant farmers. However, two other land and labor regimes were also prevalent at this time. Some tenants leased land outright – cash renters. These tenants provided all their own equipment and supplies. Share-renters relied on the landlord for seed and fuel but provided their own equipment and received either two thirds or three quarters of the harvest.

sharecropping system along, because it offered the most security for freedmen and for capital strapped planters. It would be another ten years, however, before sharecropping would become the dominant labor system (Cobb, 1992).

The same factors that made it difficult for planters to reestablish their operation created economic opportunity for African Americans. First, with the end of slavery, taxes were shifted from being predominantly slave-based to land-based. At the same time, as levees were built and drainage improved, land values and taxes rose (Harrison and Mooney, 1993; Woods, 1998) adding to the financial difficulties of planters. As a result, in order avoid loss of their developed land, wealthy landowners sold small parcels of undeveloped, interior forest to African American and white farmers.²⁷ Many African Americans were able to purchase land in this way, but the total acreage in African American ownership remained small. For example, in 1900 in Tunica County, black landowners outnumbered whites 3 to 1, but owned less than 10 percent of total land in cultivation (Cobb, 1992).²⁸ In addition, the vast forested interior offered economic opportunity for sharecroppers. Many African Americans earned additional money clearing nearby tracts of land which, combined with the profits from their crops, enabled them to accumulate enough capital, over time, to invest in their own land (Willis, 2000).²⁹

²⁷ It was at this time that intentionally African American settlements were developed in the Delta and throughout the South to prove that African Americans had the skills to establish their own communities. One such community was Mound Bayou in Washington County. The community and its leaders play an important role in debates on voting rights and other civil rights issues from the late 1800s through the 1970s. Today, the community continues to be connected to its roots.

²⁸ Not only did African Americans own small tracts, in general, they also owned the most marginal tracts for agricultural production.

²⁹ Willis disagrees with other scholars on the nature of race relations after the civil war suggesting that reciprocal interests of whites and African Americans led to better relations than most scholars portray. While I am not prepared to pass judgment on race relations at the time, what is clear is that for a short

By the late 1880s, the cotton economy had recovered, the credit market had loosened, and prosperity began to return to the Delta. Rapid growth of the African American population eased planters concerns over labor supply, even as it exacerbated white fears of social and political inundation. Thus the back population boom spurred whites to impose extensive political restraints on a black majority that had found a way to parlay the planter's need for labor into some limited political gains. As Cobb explains, "[i]n the long run, disenfranchisement supplanted fusion as a means for ensuring white political supremacy and labor control and took its place alongside flood protection and railroad construction as a key element in the effort to secure the Delta's future as the South's preeminent plantation region." (Cobb, 1992, p. 90). Sharecropping also initiated a cycle of debt that many tenants would never get out of.³⁰ Debt accumulation meant that the children of freed slaves not only had few opportunities to acquire land, but also often had a difficult time holding on to the land that their parents had passed on to them (Willis, 2000).³¹

The late 1880s also brought timber companies to the Delta, further closing off economic opportunities for African American. Timber companies paid plantation owners to log their interior lands, allowing them to increase cultivated land and reduce their financial difficulties, but spelling the end of opportunity for African American farmers seeking to earn extra money. In total, four million acres of land were cleared for timber

period of time, the Delta offered real opportunity for African Americans (and others without large amounts of capital) and attracted them from all over the south.

³⁰ For a detailed discussion of the development of debt peonage among sharecroppers see Daniel, 1972.

³¹ The Mississippi legislature actually repealed the Crop Lien law in 1873 but the repeal was vetoed by Governor Ames, who ironically had won the Governorship with support from much of the African American population.

between 1890 and 1919 (Saikku, 2005). African Americans not only lost opportunities to earn extra income by clearing forest land but planters, with the income from the timber coming off their land, were no longer forced to sell unimproved parcels to pay their taxes.

This period of relative economic opportunity between the end of the civil war and 1900 should not be romanticized as a time of racial harmony. In 1873, the promise of reconstruction seemed off to a good start with the election of a governor who attacked planters for allowing the Ku Klux Klan to operate in the state. Yet, within a year, African Americans faced intense political intimidation, often through violence. Organized efforts to disenfranchise African Americans culminated in 1890 with a new state constitution that formally disenfranchised blacks through a variety of mechanisms (Woods, 1998).³²

Mississippi remained a magnet for African Americans, even with the eclipse of African American political power and the decline in economic opportunities – an agricultural depression in the 1890s put many African American farmers off the land and added to growing sharecropper debt. In 1890, ten percent of all African Americans in the US lived in Mississippi (Woods, 1999), attracted by the large existing black population, devastation of the farm economy across the rest of the south (due to difficulties with farming thin soil), hope for expanding production opportunities, as well as because they were being pushed out of non-agricultural jobs in other areas (Woods, 1998, Cobb, 1992).

³² These include a poll tax, literacy test, constitutional understanding clause, property tests, character tests, complex registration procedures, long residency requirements and other stipulations. These requirements also disenfranchised many poor whites, which as Woods points out, made it difficult for an alliance between blacks and poor whites to develop any political power.

By the turn of the 20th century, the sharecropping system was well entrenched as the dominant capital-labor regime, along with racial domination and violence as the predominant social hierarchy. Indeed, despite the economic opportunities for African Americans associated with reconstruction, the racial formation in the Yazoo Delta at the end of the 19th century had changed little from the end of the civil war. The labor system of sharecropping, facilitated by the legal system of the crop lien and disenfranchisement of African Americans, maintained the plantation economy, as Holt describes it, as dominant economic system in the region. Thus, African Americans remained synonymous with farm labor.

Federal Intervention and the Rise of King Cotton

The turn of the 20th century brought a new form of state intervention to the region: federal agricultural programs aimed at helping farmers become more efficient. These USDA programs focused on assisting farmers with a series of technical issues, including pest control, seed varieties and other agronomy-related concerns. These efforts – which served primarily the more prosperous and larger farms – buttressed the region’s white farmers. Through this process, USDA agencies both reinforced and became constitutive of the region’s racial formation.

The first decade of the 20th century, agricultural productivity was increasing with improved pest management, better varieties of crops and more efficient implements. In addition, improved railroad transportation (made possible by more reliable flood control and interior drainage), and growing demand for cotton, helped to create what scholars call the “Plantation Kingdom” of the new south, when cotton was king, labor was stable,

and planters were flush (Brandfon, 1967; Cobb, 1992).³³ At the same time, the federal government was crafting an agricultural outreach program to provide farmers with technical assistance, and setting up a federally supported agronomy research station in Stoneville, Mississippi.³⁴

In 1904, a USDA Agricultural Experiment Station was founded at Stoneville Mississippi, to assist in efforts to expand agriculture in the Yazoo Delta (Cobb, 1992; Woods, 1998). The Experiment Station quickly took a leading role in promoting agricultural innovation and industrialization in the region. This presaged the arrival, in 1914, of the first federal network to educate farmers: the Extension Service. Extension agents, tied to land grant universities, were eager to promote the latest agronomic techniques and strategies being developed at the Experiment Station. In the Delta, Extension Agents shared the latest approaches in pest management and planting techniques, primarily with the more prosperous farmers, leaving small landowners and sharecroppers of both races to contend for themselves with the boll weevil and other pests.^{35,36}

Between the turn of the century and World War I, Delta plantations developed into what were known as “business plantations” where planters used the “scientific”

³³ Although the turn of the century was a rosy period for the planters of the Delta, in 1907, the boll weevil infestation hit Mississippi. However, because of the natural fertility of the Delta, cotton yields actually continue to increase in the Delta even during the high point of the infestation (as opposed to the hill country and the Natchez area where the pest was devastating).

³⁴ The Extension Service was nation in scope while the research station at Stoneville, while broadly associated with other such station in other parts of the country, was wholly focused on the problems and opportunities of the Delta.

³⁵ For historical details on the differential role of the Extension Service with white and black farmers see Daniel, P. and American Council of Learned Societies. (1985). "Breaking the land the transformation of cotton, tobacco, and rice cultures since 1880." from <https://www.lib.umn.edu/slog.phtml?url=http://hdl.handle.net/2027/heb.00367> .

³⁶ While the vast majority of sharecropper were African American (depending on the year, between 90 and 95 percent) white sharecroppers were also disadvantaged by the approach.

principles of modern management to cultivate thousands of acres with hundreds of laborers.³⁷ The Experiment Station and Extension Service aided in the process, expanding their missions beyond agronomy and pest control to provide guidance to planters interested in dividing their acreage into small units, each with their own manager, staff and often commissary and gin (Woodruff, 1990). While planters, with the help of the federal government, fought the boll weevil and standardized their operations, small farmers, primarily African Americans who could not access or benefit from these services, lost their battles to keep their land. Between 1900 and 1925 the percentage of African American farmers who owned their own land decreased from 7.3 percent to 2.9 percent.^{38,39} By 1925, 92 percent of Delta farms were operated by sharecroppers or renters, of whom 95 percent were African American (Beoger and Goldenweiser, 1916).⁴⁰

Even as Delta planters adopted modern, scientific management techniques to increase scale, productivity and efficiency, they struggled to maintain their labor force

³⁷ In addition to developing crop varieties and various labor-saving devices, the Experiment State at Stoneville as well as the Extension Service at Mississippi State University recognized and assisted planters in developing a scientific management style. For examples of these efforts see Langsford, E. L. and B. H. Thibideaux (1939). *Plantation Organization and Operation in the Yazoo-Mississippi Delta Area*. USDA, Technical Bulletin 626..

³⁸ This is not to suggest that this precipitous drop is purely associated with the extension service. As Cobb points out that this figure has to be understood in the context of the massive in and out migration of African American that was going on at the time. Between 1900 and 1930, the African American population in the Delta increased by nearly 50 percent (Cobb, 1992).

³⁹ By this time, sharecropping had established itself as the most profitable tenancy arrangement for planters. A USDA study in 1913 found significantly different outcomes from the various labor arrangements. The cash renter averaged \$478 per crop while the planter gained a return on investment of 6.6%. Under the share-renting arrangement the returns were \$398 and 11.8 percent respectively. However, under sharecropping, the farmer received only \$333 while the landlord return was 13.6 percent (Boefer, E.A. and Goldenweiser, 1916). The study suggests that from the tenant's perspective, sharecropping, while it has less potential to make a large income, is the "safest" option, while share-renting and cash renting hold a higher risk of failure and higher potential reward. From the planter's point of view, sharecropping is best, but in general, some combination of the three tenancy arrangement was necessary to secure enough labor to cultivate the landholding.

⁴⁰ According to the Thirteenth Census of Agriculture for the U.S. as a whole, 37 percent of farms used tenants, in the state of Mississippi 66 percent used tenants, and in the Delta, 92 percent used tenants.

and to manage the financial losses associated with high rates of sharecropper turnover. As early as the 1890s, planters sought to pass state and local laws to reduce turnover, by restricting sharecroppers' rights in contract agreements to planters (Cobb, 1992). Together, these laws amounted to a state supported legal framework of peonage, operating in the face of federal anti-peonage statutes, that again reproduced the region's racial formation.⁴¹

World War I increased demand for cotton and other agricultural commodities, and cotton prices rose dramatically. Like farmers in other parts of the country, Delta planters used the money accumulated during the war to expand cultivated acreage. With the end of the war, however, demand for cotton dropped precipitously and planters fell on hard times.⁴² Yet, even as demand dropped, planters' anxiety about labor resurfaced as African Americans continued to leave the region, lured by economic opportunity in industry and the service sector in Northern cities: between 1915 and 1920, 100,000 African Americans left Mississippi (Woods, 1998).

With cotton prices falling, the Delta was also struck with a natural disaster, the Great Flood of 1927. The record-breaking flood washed out the entire growing season, inundating the region from April through August. While flood control and levee building was a concern for Delta residents from the beginning of large scale settlement, the magnitude of the 1927 flood thrust the Delta's flooding problem into the national

⁴¹ Some of these laws were voided or repealed immediately; some remained until the 1930s (for more information see Daniel, 1977).

⁴² By the mid-1920s, historians estimate that nearly 30 percent of the land in the Delta was owned by large, northern insurance companies, the result of widespread foreclosures Woods, C. A. (1998). Development arrested : the Blues and Plantation Power in the Mississippi Delta. London ; New York, Verso..

stoplight.⁴³ The intensity and duration of the flood created such uproar that, for the first time, flood control, traditionally the province of state and local government, became an official federal interest (see Chapter 3 for more details),⁴⁴ and the Army Corps of Engineers was appointed to build a comprehensive flood control system for the region.⁴⁵ On the eve of the Great Depression, as the region emerged from the Great Flood, the Corps began the process of building its massive flood control system, thereby joining USDA as a partner to the planter in the region. As this economic crisis hit, however, the federal government came under increasing pressure to directly support farm incomes.

Intervention in Agricultural Markets – The Agricultural Adjustment Act

The Great Depression brought national attention to the labor regime in the Delta – particularly to the economic hardships of sharecropping. Planters publicly defended the system, suggesting that paternalism benefited the poor by ensuring that no matter how bad things got, their basic needs were being met (Tate, 1978; Cobb, 1992). At the same time, however, planter publications undermined this claim by circulating information on how to reduce the cost of “furnish” – the term used to describe the support that tenants received from planters for food and other necessities (Cobb, 1992). There are numerous anecdotal accounts of African American sharecroppers whose basic needs were not being met (Cobb, 1992). Yet, even in the worst of the depression, a 1932 USDA study found

⁴³ For a description of the political implications of both the flood and the relieve effort see Barry, J. M. (1997). Rising tide : the great Mississippi flood of 1927 and how it changed America. New York, Simon & Schuster..

⁴⁴ The Mississippi River Commission, the federal entity created in 1898 to improve navigation on the river, had a limited mandate and even more limited funding to address flood control Camillo, C. A. and M. T. Percy (2004). Upon Their Shoulders: A History of the Mississippi River Commission from its Inception Through the Advent of the Modern Mississippi River and Tributaries Project. Vicksburg, Mississippi, Mississippi River Commission .

⁴⁵ This system would eventually significantly curb flooding, enabling a major expansion of agricultural operations in the Delta.

that Delta plantations averaged \$615 in annual net profit (Langsford and Thibideaux, 1939).

In 1933, in response to the Great Depression, Congress passed the Agricultural Adjustment Act (AAA) to provide economic relief for the agricultural sector. Immediately, the Roosevelt Administration announced a program that would pay landowners to plow up 30 percent of the cotton land already planted, removing approximately 10 million acres or 3 million bales from production in an effort to constrict supply and drive up prices. The bureaucracy acted quickly, giving little thought to how such a program would be implemented under landlord-tenant relationships (Daniel and American Council of Learned Societies., 1985). The practices that USDA used for the cotton program set in motion a process that is widely understood to have hasten the eviction of thousands of sharecroppers.⁴⁶

In general, AAA payments went to the planter, with instructions to share them with the tenant or sharecropper and some instructions on how that should work (a sharecropper should receive 1/2, a share tenant 2/3 or 3/4 and cash renters full payment). Although the planter was supposed to have gained permission from “persons who appeared to have interest in the crop” (Cobb, 1992, p. 188), agreement from sharecroppers was not technically required to enter into the plow up contract. This practice of working through the planter to arrange acreage reduction and handle the money functioned to reinscribe the lop-sided power dynamics of the landowner-tenant

⁴⁶ There is an important debate in the agricultural history literature about whether implementation of the AAA was intentionally geared towards elimination of sharecroppers and, in essence, the African American farmer. Conrad, D. E. (1965). The forgotten farmers; the story of sharecroppers in the New Deal. Urbana, University of Illinois Press.

relationship. Planters defended this approach, arguing that tenants would waste the money if they received it directly, because they lacked financial expertise and could not be trusted to handle their own affairs. Unfortunately, the practice of issuing payment to planters exacerbated the usury relationships between landlord and tenant (Woods, 1998, Cobb, 1992, Daniels, 1985). Many sharecroppers and tenants never saw the money, which landlords simply applied to past debts (Cobb, 1992, Woods, 1998).⁴⁷

The structure of the AAA favored planters in several ways. The AAA programs, like current subsidy programs, were administered on a local basis by a partnership between the USDA and county-level committees that, in the Delta, were dominated by planters. These committees served to incorporate the regional racial, economic and social hierarchy directly into the administration of the AAA program in a number of ways, including determining eligibility for payments, distributing payments, and addressing concerns raised by sharecroppers. Thus, the only avenue for sharecroppers to redress unfairness in the distribution of AAA payments was to take their claims to the local AAA committees (Tate, 1978). From anecdotal reports, most complaints not only did not release additional funds for sharecroppers, but resulted in sharecroppers being targeted for eviction or having difficulties finding a place to farm the following year (see Cobb, 1992 and Woods, 1998).

The USDA had had more time to consider the effects of the cotton acreage reduction program on tenants, by the second year of the AAA program, but changed very

⁴⁷ It is important to remember that planters controlled all aspects of economic life for tenants. In addition to providing all the supplies and equipment necessary for the crop, they provided shelter, food, clothes and personal necessities. Further, they ran stores in which sharecroppers could purchase additional items and provided credit to sharecroppers contingent on the harvest.

little. The Roosevelt administration's cotton expert and director of finance for the AAA was Oscar Johnson, who also happened to be the Manager of Delta and Pine Land Company, the largest plantation in the Yazoo Delta. This meant that the program for cotton was crafted and administered at the highest level by someone who intimately understood the concerns of Delta planters (Nelson, 1999).

Thus, despite the problems raised by tenants in the first year of the program, Johnson did not radically rethink the payment distribution system (Cobb, 1992). The AAA policy remained that the rental payment went with the land – so sharecroppers received nothing from the AAA and had to rely on the planter to share the payment.⁴⁸ At this point, however, a second payment was introduced, a “parity” payment. Parity payments were designed to bring farm incomes up to those during World War I, when farmers were doing relatively well. While the parity payment was generally less than the rental payment, AAA did provide half of the parity payment directly to the sharecroppers (Cobb 1992, Tate, 1978).

While the AAA provided relief for planters, for many sharecroppers conditions were little improved. First, although the AAA pushed cotton prices higher, because cotton acreage was reduced, most sharecroppers and wage laborers in the Delta did not experience a significant increase in income. Second, because some former tenants were now available as day laborers, the supply of day labor was increased and their wages fell (Wright, 1986).

In fact, the requirement to share subsidies with sharecroppers pushed farmers away from the sharecropping system and towards using more wage and day labor. The

⁴⁸ Share tenants, on the other hand, received the full payment.

program explicitly was not supposed to displace tenants, so planters had to be mindful of not moving too quickly toward wage labor. However, the same county committees, made up of planters that administered the program, also provided oversight for changes in acreage, planters had only to convince these committees that reductions in acreage were coming from land farmed by wage laborers, and not from tenants (Cobb 1992, Tate, 1978). Through this process, planters were able to choose which tenants stayed and which were forced to leave, enabling them to remove older, less productive and “problematic” tenants and keep those who were more compliant or productive (Cobb, 1992).

Replacing tenants with wage hands had huge advantages for planters. A planter could increase his share of AAA payments by 91% when replacing a cash tenant and by 137% when replacing a share tenant (Cobb, 1992). At the same time, by increasing the cash available to most planters, the Federal payments encouraged farmers to consider buying labor saving technology. Although tractors had been available well before the depression, the funds from the AAA created the incentive for many planters to make their first purchases. The increase in tractors exacerbated the number of tenants displaced, whose work could be accomplished much faster and more cheaply with tractors and wage labor.

At the same time, the New Deal “relief” payments allowed planters to shift a significant portion of their economic burden for tenancy, specifically for furnish, to the government. Essentially, “relief” payments, aimed at emergency poverty reduction, allowed planters to hire former sharecroppers when they needed, without regard to the true

cost of maintaining a ready labor force in the region. As Daniel explains, the first years of the AAA were a great time for planters; “there was plenty of labor, the federal government cared for those who were without work or food, and the agricultural program favored landlords. With a few adjustments, a landlord could change the status of his sharecroppers and tenants, keep nearly all of the government money, transfer the furnish to the government and save money towards a tractor.” (Daniel, 1985, p. 100).⁴⁹

Daniel (1985) Woods (1998) and others refer to the introduction of the New Deal, and subsequent changes in both farm labor regimes and who ultimately had access to agricultural land, as the “Southern Enclosure Movement.” The shift from sharecropper to day laborer effectively eliminated any remnant agricultural ladder available to sharecroppers and other tenants in the region. Already, between 1930 and 1940, tenants declined by 62 percent (see Cobb, 1992). At the same time, the introduction of fertilizers and more intensive cultivation allowed planters to maintain or increase yields, even as they decreased their total acreage (Aiken, 1978; Cobb, 1992). African American tenants were certainly not the only victims of these policies. Small white farmers also suffered from the problems of the AAA administration, but there were simply far fewer of them.⁵⁰

⁴⁹ Nationally, Delta planters received a huge portion of the benefits from AAA programs. In 1933, 25 percent of all AAA payments over \$10,000 went to farmers in the Delta, growing to 35% in 1934, and 41% in 1935 (Cobb, 1992). Because these payments are related to acreage and value of crops grown, these figures point out that Delta farms were large and were growing primarily high value cotton. However, given the continued dominance of the region in receiving subsidies, they also indicate the influence that the region has been able to maintain in setting agricultural priorities.

⁵⁰ Scholars examining the Great Depression and New Deal in the Delta suggest that, while they complained mightily about the African Americans who rented their land, planters preferred African American tenants to white ones. Dollar explained, “low standard of living can be forced on the Negro by utilizing caste prerogatives to surpass any demand for change on his part” (Dollar, 1959). A government researcher agreed, “plantation owners prefer the docile Negro cropper. They despise the white cropper who is so low that he submits to their overhearing supervision; and they cannot get along with one who talks back.” Cobb, 1992 p. 194.

Despite the movement towards enclosure, the New Deal was not without benefits for African Americans in the Yazoo Delta. Through the New Deal, the federal government financed and built better infrastructure, bolstered the regional economy and buttressed land values, making it possible to continue agricultural production in the region. Land reform efforts provided sharecroppers with loans and technical assistance to help them purchase farms (Woods, 1998).⁵¹ Predictably, planters were hostile to programs designed to assist tenants to become landowners because it exacerbated their constant concerns about labor shortage (Cobb, 1992).

The provisions of the New Deal created the circumstances for a fundamental shift from labor-intensive to capital-intensive agricultural production in the Delta, which would play out over the next two decades. While wage labor and mechanization reduced planters concerns about labor shortages, planters still worried about adequate labor for the harvest. The need to pick the cotton manually ensured that planters maintained enough tenants to manage the harvest. Although wage labor was available, the heavy demand for labor throughout harvest season meant that many planters were uncomfortable relying too much on wage labor for this critical task. As Gavin Wright (Wright, 1986 p. 235) explained famously: “Tenancy is the price that the planter paid for the certainty of harvest labor.”⁵² It would be another 30 years before complete mechanization of the harvest ended all tenancy.

⁵¹ Some of the most significant benefits for blacks came in Holmes County where a project to help African American farmers become landowner helped more than 100 of them buy land. This community remained intact and played a major role in the civil rights movement. Cobb, J. C. (1992). The most southern place on earth : the Mississippi Delta and the roots of regional identity. New York, Oxford University Press.

⁵² The federal government was also sympathetic to planters’ needs for harvest labor, often releasing laborers from Works Progress Administration projects to work on the harvest Conrad, D. E. (1965). The forgotten farmers: the story of sharecroppers in the New Deal. Urbana,, University of Illinois Press, Cobb,

The mid-1930s also saw the founding of what would become the most important political organizations to represent the Yazoo Delta for the next 70 years – the Delta Council. Delta Council was formed as a sort of regional chamber of commerce in 1935.⁵³ It was, and is, an effort to have a formal organization to address federal, state and local policy for the Delta, specifically in order to facilitate economic development in the region. From World War II on, the Delta Council would take a lead in representing planters interests in regards to agricultural labor to the state and federal government. Far more savvy and active than a traditional Chamber of Commerce, Delta Council immediately became intimately involved in all aspects of agricultural policy, flood control, and regional development. Delta Council, much like the local AAA committees, has always bridged the state-society divide. It was originally constituted by planters and other prominent business people, but also included key local government officials as *ex-officio* members while excluding African Americans. They are widely understood to have played an important role both in ensuring that the region continues to receive generous attention from Washington, particularly in terms of agricultural subsidies, and in perpetuating the regional system of racial domination (Cobb, 1992, Woods, 1998).^{54,55}

J. C. (1992). The most southern place on earth : the Mississippi Delta and the roots of regional identity. New York, Oxford University Press.

⁵³ It was actually first called the Delta Chamber of Commerce, but was renamed in 1938 because populists sentiments in the Roosevelt administration disliked Chambers of Commerce due to their associations with business.

⁵⁴ The Delta Council's role in maintaining the region's racial formation, as the political representative of the region in Congress and the State House is far reaching and well documented as are the organization's connection to the White Citizen's Council (see Woods, C. A. (1998). Development arrested : the Blues and Plantation Power in the Mississippi Delta. London ; New York, Verso. I will take up other examples of these efforts in later chapters.

⁵⁵ In The Southern Tenants Farmers Union (STFU) was also founded in the mid-1930s to help tenants victimized by the AAA. However, it was much more active other parts of the Lower Mississippi Valley. Delta Council (and Farm Bureau) worked actively to keep the STFU out of Mississippi and limit influence.

For example, Delta Council itself cites its contributions ensuring the sharecroppers were considered independent contractors, rather than employees, so that they would be excluded from the Social Security system, thereby saving planters from making contributions on behalf of these farmers (Cash and Lewis, 1986).

Wartime Labor Management and Post-War Restructuring

The decade of the 1940s continued the economic restructuring in the region.

While USDA parity payments provided a base subsidy for planters, acreage allotments were suspended along with rental payments, allowing planters to expand cotton acreage. During and after World War II, labor scarcity reemerged as planters sought to maintain adequate labor reserves when sharecroppers were drafted. Immediately, planters began to explore other avenues to find inexpensive and plentiful labor by bringing in workers from Mexico and other places. The cumulative effect of New Deal programs, increasing mechanization, and restrictions in labor caused by World War II would change the role of African Americans in the region, with USDA subsidizing the final moves away from human labor (and sharecropping) and toward capital-intensive production—with African Americans running the machinery.

Despite the move towards mechanization and wage labor before the U.S. entered World War II, the war effort created a familiar anxiety for Delta planters: how to ensure enough labor to get the cotton crop harvested. During the war, both the draft and the lure of wartime industrial production moved African American farm workers out of the Delta (Woodruff, 1990). From the planters' perspective, the labor problem seemed especially

Cobb, J. C. (1992). The most southern place on earth : the Mississippi Delta and the roots of regional identity. New York, Oxford University Press.

acute given that high cotton prices and the suspension of cotton quotas allowed them to expand production.⁵⁶ Although it is not clear that this created a true labor scarcity, planters worried about securing enough labor, particularly at the price they wanted (Cobb, 1992, Woodruff, 1990).⁵⁷

At the same time, planters began to worry about African American tenants becoming increasingly assertive, a development they associated with World War II. These concerns stemmed from both individual and collective action. For example, planters were dismayed when sharecroppers found it advantageous to abandon their crop after July 1st (when the furnish would stop after the crop was well established), move into town, and then work as wage labor for the harvest (Cobb, 1993). In addition, the Southern Tenant Farmers Union (STFU), a labor organization aimed at assisting African American farmers throughout the South, was actively recruiting members and publicizing planters' unfair practices and use of intimidation, including efforts to cheat sharecroppers out of government payments as well as over-charging on commissary accounts and cheating at the gin (Woodruff, 1990). While the union was never particularly successful in Mississippi,⁵⁸ their efforts to raise the concerns of sharecroppers did increase anxiety for Yazoo Delta planters.

Planters thus sought help from the state through a number of mechanisms. First, in 1942, passage of the Tydings Amendment to the Selective Services Act empowered

⁵⁶ Quotas remained in place until 1943 and then were lifted from 1944-1950. Cochrane, W. W. (1993). The development of American agriculture : a historical analysis. Minneapolis, University of Minnesota Press.

⁵⁷ Woodruff cites the Southern Tenant Farmers Union and an unpublished study by the Office of Labor in the War Food Administration both suggesting that sufficient, even plentiful labor was available if planters were willing to pay decent wages.

⁵⁸ They had much more success organizing in the Arkansas Delta.

local draft boards to defer agricultural workers so long as they remained on the farm. The regional power structure assured that planters were well connected to local draft boards, allowing them significant say over which tenants went off to war, and which stayed behind. In addition, this power addressed planters concern about sharecroppers abandoning the crop in the summer, because they could use the threat of conscription to keep laborers on the farm (Cobb, 1992).

Second, in 1943, Congress created an emergency farm labor supply program in order to address labor shortages within the US caused by the war. This program was designed to provide federal funding and support for workers being moved from one area to another because of relative labor scarcity. Delta planters, concerned that laborers would be relocated out of the Delta, lobbied for provisions to require a signature of the county Extension Agent before a worker could receive federal assistance to leave his/her county. This made it more difficult for workers to leave, giving planters, who had significant influence over the extension system, a say in who got to leave and who did not (Woodruff, 1990).

Third, the 1943 emergency farm labor supply program also changed USDA policy for bringing in workers from other countries. A previous agreement enforced by USDA had stipulated that Mexican workers would receive a minimum wage of 30 cents an hour, unemployment compensation, housing, and other benefits. The 1943 program circumvented this policy, and allowed Delta planters to more cheaply secure POWs, Mexicans and Hispanic migrants from Texas to pick cotton (Cobb, 1992, Woodruff,

1990). During the war, Delta planters used between 8,000 and 10,000 Mexican workers annually (Woodruff, 1990).⁵⁹

Finally, planters sought a mechanism to address the rising cost of wage labor caused by the changes in tenant structure during the war. In 1945, Delta planters asked the Secretary of Agriculture to appoint a state wage board that would set a wage ceiling. Delta Council, from which African Americans were still excluded, lobbied hard for the wage ceiling, arguing that there was a tremendous shortage of labor created by the war. STFU fought back, seeking a federal injunction to block the implementation of the ceiling. It failed to get an injunction, but did succeed in keeping large numbers of workers out of the fields. In 1946, after failing to secure a wage ceiling – a moment that signaled an end to Delta planters’ command of an African American labor force willing to work long hours for low wages⁶⁰ -- planters shifted their political focus to importing labor from Mexico.

Planters hoped that soldiers would return to the Delta, after the war, and to their jobs as tenants or wage laborers. Many African Americans did not want to return to this labor regime, however, whereas others who did were no longer willing to endure poor treatment from landlords.⁶¹ For those who did return to their jobs, new forms of

⁵⁹ Mexican workers were also used for chopping cotton in 1948 and harvesting in 1951. Woods, C. A. (1998). Development arrested : the Blues and Plantation Power in the Mississippi Delta. London ; New York, Verso.

⁶⁰ Cobb suggests that pursuing a wage ceiling was by no means an easy decision for planters. He agrees that they knew that allowing federal involvement of this type could bring the federal government into the internal racial affairs of the region, something they strongly objected to. Cobb, J. C. (1992). The most southern place on earth : the Mississippi Delta and the roots of regional identity. New York, Oxford University Press.

⁶¹ Scholars point to the rapid development of race consciousness among blacks during the war. Cobb, J. C. (1992). The most southern place on earth : the Mississippi Delta and the roots of regional identity. New York, Oxford University Press.

resistance emerged. For example, cotton pickers sought to game the system by putting green bolls or rocks into their cotton sacks before weighing.⁶²

At the same time, capital continued to replace human labor, with two important events hastening this transition in the mid-1940s. First, in 1946, federal expenditures on agricultural research were increased (Woods, 1998), and the Agricultural Experiment State at Stoneville was able to increase its staff and resources. Better varieties of cotton, managerial techniques, and advances in machinery were just a few of the results of these investments (Woods, 1999).⁶³ Second, in 1947, the first self-propelled, one-row cotton picker was introduced by International Harvester, beginning the final de-coupling of African American labor from the cotton harvest. By 1950, the percentage of the Delta cotton crop that was harvested mechanically grew to seven percent (Crowe, 1949).

Although sharecropper numbers continued to fall through the late 1940s and early 1950s, the decline was not as precipitous as one might imagine. Early mechanical pickers were not easy to operate, did not operate in all conditions, and did not do as thorough a job as people. They were slow (only working one row at a time) and expensive,⁶⁴ so planters often limited their use to specific areas (Crowe, 1949). Even those with substantial investments in pickers were not willing to trust their entire harvest to the machines. Planters also held on to tenants because it was still necessary to do weed control by hand (Cobb, 1992), although this too was changing. By the early 1950s,

⁶² Woods points out that as resistance grew, Delta Council began to advocate for a plan to improve black schools, hoping to win more consent among the African American population.

⁶³ Woods calls this the “green revolution” with a nod to the literature on how new seeds brought a systemic change to agriculture in Asia.

⁶⁴ In 1944, a cotton picker, including the tractor was approximately \$4,000, three years later prices averaged \$8,000 (Crowe, 1950, p 10).

planters were experimenting with a combination of mechanical and chemical techniques to control weeds, further reducing the need for human labor (Crowe and Holstun, 1953).⁶⁵

Between 1930 and 1950, the Delta population only dropped by 10,000, from 619,000 to 609,000. Migration before and during the war meant that the African American population declined more significantly, however, from 440,000 to 409,000. In addition, there were important spatial changes within the region as many African Americans moved off the land to become wage laborers: the African American rural population dropped between 1940 and 1950 from 316,000 to 257,000 (Aiken, 1990; Woods, 1998)

The early 1950s saw a further round of federal restrictions in cotton acreage in an effort to improve farmers incomes.⁶⁶ Congress reinstated cotton allotments in 1953, then, three years later, created the Soil Bank Program to promote soil conservation and reduce excess commodities.⁶⁷ These programs worked effectively to reduce the proportion of cropland devoted to cotton from 59 to 32 percent between 1953 and 1957, even as the percentage of the cotton crop picked by mechanical cotton pickers rose from 25 percent to 45 percent.⁶⁸ The expansion of the cotton picker, combined with the increase in the use of herbicides continued to push the transition towards wage labor as planters were able to mechanize both the harvest and labor-intensive weed chopping. During this

⁶⁵ For a detailed account of the introduction of mechanical and chemical methods for weed control, see Aiken, C. (1978). "The Decline of Sharecropping in the Lower Mississippi River Valley " Geoscience and Man **XIX**: 151-165.

⁶⁶ Federal programs restricting cotton acreage were suspended because of the increase in wartime demand. Parts of the cotton plant were used in various aspects of the war effort including packaging for war materials.

⁶⁷ Cotton allotments were not imposed between 1944 and 1953 with the exception of the crop year of 1950.

⁶⁸ Actually, in 1956, nearly 60 percent of the cotton crop was picked mechanically. In 1957, however, weather conditions were unfavorable for picking machines and so a smaller percentage was harvested mechanically.

period, the percent of cotton worked by wage labor rose from 44 to 52 percent (LeRay and Crowe, 1959).⁶⁹

By the late 1950s the tenant labor regime was in its final throes. During the 1950s, farm size in the region tripled, while the total number of farms fell by 1/3. By 1960, 15 percent of the farms were growing 70 percent of the cotton (Cobb, 1992). In 1959, a survey found 17,563 sharecroppers in the Delta; five years later the figure was 8,788, and by 1967 it was approaching zero (Cobb, 1992). Acreage reduction programs for cotton between 1965 and 1967 further reduced the need for wage labor; between 1964 and 1967 the number of laborers hired to chop weeds fell by 75 percent (Cobb, 1992), and rural farm population fell by 54 percent whereas urban population grew by 39 percent (Woods, 1998).

In the 1960s, cotton planters all over the south were confronted with a new competitor, synthetic fabrics, which drastically reduced the demand for cotton and in 1966, Congress further trimmed cotton allotments by up to 35 percent, dramatically reducing the residual need for farm labor and coinciding with the end of tenancy in the region.

Conclusion

U.S. agricultural policy has been widely blamed for perpetuating a homogenization of American row crop agriculture and driving up the size of farms, but little attention has been paid to how regionally-specific policy implementation has played

⁶⁹ The portion of cropland treated with herbicide increased from four percent to 19 percent LeRay, N. and G. B. Crowe (1959). Labor and technology on selected cotton plantations in the Delta area of Mississippi, 1953-1957. USDA, Mississippi State University Agricultural Experiment Station..

a role in selecting who would farm.⁷⁰ The history of agriculture in the Yazoo Delta underscores how racialized labor is integral to the development of the current regional economy (Holt, 2000). Indeed, the regulation of human labor has been as important as commodity subsidies and technical assistance in constituting agricultural policy.

State practices bear a closer look because, at least in the case of cotton in the Yazoo Delta, their application provided benefits to certain groups of farmers while denying them to others, reinforcing the social and cultural norms of the regional racial formation. This point is underscored by the ability of the planter class to bridge state and society and directly influence both how Federal agricultural policy was created, at the highest level, and how it was implemented, at the local level. While price supports and technical assistance alone did not remove African American farmers from the cotton production, these state practices, when coupled with the mechanization of cotton farming and the social relations of production in the region, triggered a leaching of African American farmers from the Delta.

Federal interventions aimed at reducing the natural and market risks of farming were not confined to those arenas. The effects of state intervention had ramifications that concatenated throughout the plantation economy including the economic, bio-physical, social, and cultural systems that agricultural production rely on.

⁷⁰ Daniel, P. and American Council of Learned Societies. (1985). "Breaking the land the transformation of cotton, tobacco, and rice cultures since 1880." from <https://www.lib.umn.edu/slog.phtml?url=http://hdl.handle.net/2027/heb.00367> focuses on this point in discussing how the introduction of price supports did little to alter the social relations of production for either rice or tobacco while prompting a complete restructuring of cotton.

Chapter III: The Development of the Regional Flood Control Infrastructure

The natural and human history of the Yazoo Delta make it a particularly pertinent place to study the connections between state policies and practices of natural resources management within the social, economic, and institutional context in which they are implemented. At the heart of this history is the region's relationship to the flooding regime of the Mississippi River and its tributaries. The river's annual spring flooding is at once the source of the inexhaustibly fertile soil that became the foundation for the region's racially-hierarchical cotton economy and a constant threat to agricultural productivity. The natural, social, and racial issues facing the region today continue to revolve around this fundamental tension.

This chapter is focused on state-environment relations in the Yazoo Delta, specifically the state's role in the land use change from floodplain forest to row crop agriculture. Because this change did not occur without contestation, this chapter also charts that contestation, both in regard to the emergence of the environmental movement (in and outside the state apparatus) and in regard to nature's agency—in this case the Mississippi River itself disrupts attempts to impose both political and hydrologic order on the alluvial system. This chapter should be understood as a companion to Chapter II, as it seeks to build on some of the same themes, addressing how the state at all levels reinforced the racial formation (albeit in a much less direct way than in the agricultural arena) and specifically how the federal state is articulated with local institutions, giving the regional racially charged power structure access to federal resources.

In regard to the role of state actors in the transformation of nature, I have three key points. First, in charting the state's role in the gradual conversion of the bottomland forest to row crop agriculture, I detail inter-scalar dynamics that developed during the 80-year transition from private levees, to county-level levee infrastructure, to the federal government assuming responsibility for an interstate approach to flood protection. The articulation between the federal government and local interests that resulted from this process has important ramifications for understanding how the local power structure is able to reach into the federal realm to obtain resources to support the region.

Second, this history is also illuminating from the perspective of how federally-created institutions like the Mississippi River Commission (MRC) can be constituted in such a way as to bridge the state-society divide, by bringing local-derived credibility to engineering policies that would be implemented by the Army Corps of Engineers (Corps). This chapter demonstrates how the MRC evolved from an institution designed to bridge the gap between civil and military engineering expertise, to an institution whose primary political value was in providing local connection and local buy-in.

Finally, while the issue of race and the racialized labor force of the Yazoo Delta was largely ignored in the history of landscape transformation, the historical details surrounding state practices including levee building, flood fighting, and even flood relief betray the ways in which these practices were generative and reinforcing of the regional racial formation.

The contestation of this transformation is explored in terms of the emergence of “environmental governance.” As Congressional and public expectations rose for federal

agencies to act in an environmentally responsible manner, the tone of flood control debates changed, beginning with the Fish and Wildlife Coordination Act in 1958. Environmental costs and benefits began to play a role alongside issues of hydrology and risks to both human life and economic livelihoods. I examine this process at three scales: in relation to national-level policy changes (like the passage of NEPA), a regional-level evaluation of the Corps' flood control project, and the emergence of local-level protests over the project designed to protect the upper portion of the Yazoo Delta.

Finally, this chapter pays attention how nature's agency, in the form of the power, connectivity and unpredictability of the Mississippi River, also subverted state efforts to provide enough flood control to support agricultural development. The river knits together a political geography that is, in many ways, unprepared to address a natural feature that recognizes no political boundaries.⁷¹ This chapter demonstrates the ways that the river's agency comes into play by examining the problems associated with imposing a political geography on the River's physical geography.

In this chapter I explore the relationship between the flooding regime of the river and those who sought to live and farm in the alluvial floodplain. I do this through an historical examination of how the Lower Mississippi River shaped the need for flood control and, in turn, how flood control facilitated an environmental transformation from forest to agriculture.⁷² I focus mainly on the historical development of an infrastructure – both administrative apparatus and engineering techniques. The chapter covers the limited

⁷¹ I think about the Mississippi River as similar to the way that Latour describes a train, being connected to the local, the regional, and the national all at the same time.

⁷² The Lower Mississippi River begins at Cairo, Illinois, at the confluence of the Ohio and the Mississippi Rivers.

success of local-based institutions in building a regional flood-control network from settlement through the 1870s. Subsequently, in 1879, the MRC was formed, bringing some limited federal attention to the flooding issues in the Mississippi Alluvial Valley. The chapter then moves on to the landscape-changing flood of 1927 and the resulting federal intervention into flood control through the Flood Control Act of 1928. The plan described in the 1928 Act began to unravel as soon as the law passed and the chapter follows key moments in this process as they relate to changes in the approach to providing flood protection in the Yazoo basin. Specifically, a dispute with between the Mississippi and Arkansas sides of the river over which bank would receive better flood protection led to a fundamental shift in Corps policy to include the tributaries in the flood control project. The last portion of the chapter addresses the emergence of the environment as an important concern in flood control and details the Corps effort to build the first flood control project in the Yazoo Delta: the Upper Yazoo Project.

Regional Background

The Yazoo Delta is the term used to describe the region of northwest Mississippi that is characterized by alluvial soils deposited by the Mississippi River. While the entire Delta region is subject to headwater flooding, the term used to describe flooding associated with too much upstream water moving downstream and breaching the river banks, the southern portion of the region, where the Yazoo enters the Mississippi, is also susceptible to backwater flooding. Backwater flooding occurs when the Mississippi River is flood stage and excess water backs into its tributaries, causing those rivers and

streams to top their banks as well. Backwater flooding is often of longer duration, and more economically damaging, than headwater flooding.

At the beginning of the 19th century, the Yazoo Delta contained over 4.5 million acres of deciduous, floodplain forest, much of it old growth. While predominantly forested, early accounts of the region also note large tracts of grassy areas (up to 80 acres) and significant cane breaks,⁷³ both on higher land (Saikku, 2005). A logger's paradise, the Delta's forest was a blanket of cypress, sweet gum, and tupelo, many trees reaching four feet or more in diameter. But beneath the trees lay the real treasure of the Delta: the soil. Indeed, that tension between agriculture and forests—whether for timber or recreation, or for the less economically tangible environmental benefits of fish and wildlife habitat or maintenance of water quality and other environmental services—remains critical today. With the exception of the natural levees on the Mississippi and inland streams, most of the region's forest is bottomland hardwood forest growing on hydric or wetlands soils.⁷⁴ Thus, as agriculture in the region advanced (Table 3), the forest, and the fish and wildlife and other living resources that depend on that system, retreated.

⁷³ Giant cane is a bamboo species native to Eastern deciduous bottomland forests.

⁷⁴ For a discussion of the classification of bottomland hardwoods or southern flood plain forest see Saikku, M. (2005). This delta, this land : an environmental history of the Yazoo-Mississippi floodplain. Athens, University of Georgia Press. 28-31.

Table 3: Cultivated Acreage in the Mississippi Delta 1850-1930⁷⁵

County	1850	1860	1870	1880	1890	1900
Bolivar	16,973	85,188	39,629	74,072	161,337	185,746
Coahoma	11,478	39,139	28,959	52,490	95,019	121,905
Humphreys						
Issaquena	27,631	56,596	35,286	32,928	68,837	55,052
Leflore				40,981	80,182	117,013
Quitman				5,714	15,827	23,363
Sharkey				24,824	44,994	61,115
Sunflower	5,966		30,264	14,170	35,587	73,696
Tunica	6,015	29,341	14,141	39,558	58,796	93,438
Washington	59,126		70,119	99,887	199,001	197,896
Total	127,189	210,264	218,398	384,624	759,580	929,224

County	1910	1920	1925	1930
Bolivar	251,595	291,324	289,117	342,464
Coahoma	172,389	185,614	200,329	214,596
Humphreys		97,452	81,031	111,707
Issaquena	54,154	54,697	43,845	49,538
Leflore	173,595	166,733	168,198	221,207
Quitman	58,982	102,128	95,523	122,535
Sharkey	82,573	68,724	67,795	76,552
Sunflower	156,906	220,497	237,598	334,722
Tunica	111,963	117,239	112,595	125,037
Washington	192,882	230,317	188,035	218,367
Total	1,255,039	1,534,725	1,484,066	1,816,725

Source: Saikku, 2005, p. 116

⁷⁵ Not all counties have data because counties were being created throughout this time.

Early Attempts at Flood Control

Early in the efforts to protect the Delta from the Mississippi and Yazoo Rivers, county and state level institutions tried, and mostly failed, to provide an adequate infrastructure for agricultural production. Thus, long before there was consensus about a federal interest in flood control in the late 1920s, federal resources were directed to the region to buttress state and local efforts at river control.

In the 1840s, when the Delta was settled using slave labor, the dense trees, shrubs and vines of the region made clearing difficult work. Further, the warm temperatures and ample rainfall (the subtropical region gets approximately 56 inches of rain each year) meant that quick-growing vegetation had to be constantly re-cleared during the first few years of planting. While settlers chose the highest and driest land, this was still subject to early spring flooding, and many planters used slaves to build private levee systems to reduce flooding. As long as settlement was confined to the natural levees, however, flooding issues were minimal because floodwaters usually receded before spring planting was to begin.⁷⁶

As river traffic increased in the early 19th century, the shipping industry demanded federal improvements in navigation. The river was largely uncharted and filled with large snags and shifting sand bars. In response, in 1820 Congress appropriated funds for a survey of the Ohio and Mississippi Rivers, and in 1824 provided funds for the removal of snags from the Mississippi (Galloway, 1980). In the 1830s, the

⁷⁶ While most settlers came to the area for agriculture, from the 1830s, the timber industry was active in the Yazoo Delta. In addition to harvesting agricultural crops, many southern planters cut cypress trees on their property and floated them down river to mills in Vicksburg or New Orleans. For more on the early development of the timber industry see Saikku, M. (2005). *This delta, this land : an environmental history of the Yazoo-Mississippi floodplain*. Athens, University of Georgia Press..

Corps did some initial dredging of the river near its mouth to relieve delays in entering the Gulf of Mexico, but funds for this work and other river improvements were very limited and Congress did not follow up with additional appropriations (Galloway, 1980; Barry, 1997)

By the 1840s, however, the development of the Mississippi for water transport was drawing attention up and down the river.⁷⁷ In 1845, 1846, and 1847, a coalition including the shipping industry, agricultural interests and river cities held conventions in Memphis, Chicago and Cincinnati to press for flood control and navigation improvements in the Lower Mississippi and Ohio Valleys. Congress vigorously debated federal intervention in providing funds and expertise for development of the Mississippi, in particular whether flood control and navigation should be considered local or national problems. Despite their numbers, flood control and navigation advocates were unable to gain Congressional approval (Galloway, 1980).

Major floods in 1847 and 1849 heightened the urgency for those in the MAV. When the 1849 flood overtopped New Orleans' extensive levee system, it brought a swift political response. Congress passed the Swamplands Acts in 1849 and 1850, which turned over to state governments all federal interests in swamp and overflow lands. Proceeds from the sale of these lands were to be used to reduce flooding. Through this process, the state of Mississippi acquired more than three million acres of land, which the state then sold for between five and 50 cents per acre (Saikku, 2005).⁷⁸ Unlike other

⁷⁷ The 1840s push for Mississippi River development brought together interests from the Upper and Lower portions of the River.

⁷⁸ The Swamplands Act was not the first time the state of Mississippi attempted to control flooding in the Yazoo basin. Mississippi's first involvement in flood control dates to 1819 when the state legislature

states in the Lower Mississippi Alluvial Valley, Mississippi did not take a state-level approach to flood control,⁷⁹ devolving flood control to the counties to coordinate. County governments took up this charge, but flood control efforts remained poorly coordinated and poorly funded with the majority of levee building still driven by individual planters (Harrison and Mooney, 1993).

Along with the Swamplands Act, Congress authorized two independent examinations of flooding problems in the MAV (Camillo, 2004). The civil engineer Charles Ellet conducted one investigation and recommended a series of reservoirs in the headwaters, the strengthening of the levees along the mainstem, and a series of outlets in the lower portion of the basin (Saikku, 2005). Army engineers Humphreys and Abbot completed a second survey and recommended a levees-only approach to flood prevention, suggesting that other measures were both costly and unnecessary (Harrison, 1950). The tension between using levees alone and using them in combination with reservoirs, cut offs and other techniques became a major theme in debates about how to address the flooding problem in the MAV.⁸⁰

appropriated \$8,000 for flood control in the Yazoo basin and charged local government with implementation. In 1830, the state passed more complex legislation and a larger appropriation, but like the 1819 legislation it placed all the responsibility for implementation in the hands of the locals. The County Boards of Police were given authority to locate and build the levees – riparian landowners were required to help with building. Inland landowners were billed for their share of the costs. These initial efforts were generally poorly coordinated and short lived. For more information on these early efforts see Harrison, R. W. and J. F. Mooney (1993). Flood control and water management in the Yazoo-Mississippi Delta. Mississippi State, MS, Social Science Research Center, Mississippi State University.

⁷⁹ Arkansas used money from the Swamplands act to develop a state funded levee system. Louisiana used the funds to hire a contractor to build levees that would be maintained privately.

⁸⁰ For a discussion of this debate see Camillo, C. A. a. M. T. Percy (2004). Upon Their Shoulders: A History of the Mississippi River Commission from its Inception Through the Advent of the Modern Mississippi River and Tributaries Project. Vicksburg, Mississippi, Mississippi River Commission or Barry, J. M. (1997). Rising tide : the great Mississippi flood of 1927 and how it changed America. New York, Simon & Schuster.

Notwithstanding lack of coordination, levee construction began to have a noticeable effect on flood height as early as the 1850s, causing problems for downstream landowners. In 1852, Charles Ellet delivered a report to Congress entitled “Report on the Overflow Delta of the Mississippi” (Brandfon, 1967 p. 53) which describes the effect of levee building on downstream flooding. He discussed the changes in the river flow rates associated with flood control efforts including closing of outlet or distributaries⁸¹ with levees:

“The water which formerly escaped through these lateral vents, filling up the swamps slowly, or as the flood increased, flowed over the borders of the great river and its tributaries, filling the reservoirs there...is now confined by artificial breastworks within the too contracted channel of the river. Consequently, as the levees are extended higher up, more water is excluded from the swamps, and the flood is therefore increased, and forced more rapidly, and in a deeper column, on the country below; thus compelling the lower planters to raise higher and make stronger the frail levees which originally sufficed for the protection of their isolated estates.”

Ellet’s report, and others, began to underscore the interconnectedness of the MAV and thus the need to develop a flood control strategy that addressed flooding issues in a coordinated way and at a larger scale.

The sale of the overflow areas associated with the Swamplands Act brought new landowners to the region, creating a new constituency and funding for flood control.

⁸¹ The issues of distributaries is often overlooked in the debates over levees and other flood control mechanisms in the MAV. Before the levees were built on the mainstem of the river, flood waters from the Mississippi were disbursed through a series of distributaries that allowed the river to deposit sediment and build natural levees along these waterways throughout the floodplain (creating the subtle but important topographic diversity of the region). Today, the only remaining distributary connected to the mainstem is the Atchafalaya River. Today, environmentalists and the Corps are working together to recreate ecological effects of distributaries by using diversions provide sediment to the wetlands on the Louisiana Coast in an effort to mitigate coastal land loss.

Between 1852 and 1858, Delta landowners spent two million dollars (Harrison, 1951) to build a continuous levee of about four feet to protect the Yazoo Delta from the mainstem of the Mississippi (Saikku, 2005).

By the late 1850s, with the expansion in agricultural production, non-riparian landowners became uncomfortable with relying solely on their riparian neighbors for flood control. In the first attempt at a regionally-coordinated approach to flood control in the Yazoo basin, the state legislature created what came to be known as the 1858 Levee Board. The board funded by a tax of 10 cents per acre on cultivated land for a five-year period, moved quickly to begin to build 150 miles of new levees, often to replace those that had not been built to proper specifications or were constructed too close to the stream (Harrison and Mooney, 1993; Saikku, 2005).

This new system was completed just in time for the outbreak of the Civil War, which would disrupt settlement and agricultural production and destroy much of the region's infrastructure over the next five years. The levee system itself was a major target for Union troops, who blew up many of them as part of Union offensives in the region.⁸² In addition to the war, two large floods hit the Yazoo Delta between 1860 and 1865, further damaging or destroying much of the new levee system.^{83,84} Indeed, the occupation

⁸² For a more detailed discussion of the levee system during the civil war see Woods, C. A. (1998). Development arrested : the Blues and Plantation Power in the Mississippi Delta. London ; New York, Verso.

⁸³ Branfon suggests that the 1858 levees too fell victim to the problems of parochial local interests and limited planning. Planters were often unwilling to go beyond the minimal protection afforded by their own local levee districts, which for them was adequate enough. Branfon suggests that had the war not disrupted this levee board work, it would have had the same trouble that had marked previous efforts at flood control. He cites Harrison, R. W. (1950). "Levee Building in Mississippi Before the Civil War." Journal of Mississippi History XII: 80-92.

⁸⁴ The 1858 Levee board actually had plans to build a \$6.25 million project that would have had serious consequences for the Arkansas and Louisiana side of the river. Delta planters understood this, but did not

of the Delta by Union forces during the war left the planters with a strong distaste for the federal government and a fear that federal involvement would mean loss of control over their own affairs. This distaste lasted until the late 1920s, when the region welcomed federal efforts to forge a coordinated flood control system.

At the conclusion of the Civil War, while working to reconstitute a system to ensure the considerable labor needed to run a cotton plantation (Chapter 2), planters also faced rebuilding a levee system. Landowner attitudes toward this rebuilding varied greatly based on geographic location. In the upper half of the Delta, where high water from the Mississippi could move quickly off the land via the Sunflower River, Deer Creek or other distributaries of the Yazoo, farmers were not focused on levees. In the Lower half of the Delta, however, where these distributaries were already full of water did not easily carry away rising waters from the Mississippi, backwater flooding was persistent. As a result, planters in Washington, Sharkey, Issaquena, Sunflower, and Humphries Counties (Figure 2) were urgently focused on levee rebuilding (Saikku, 2005).

care. This theme of the opposing sides resurfaces again and again. Brandfon, R. L. (1967). Cotton kingdom of the new South: a history of the Yazoo Mississippi Delta from reconstruction to the twentieth century. Cambridge, Mass., Harvard University Press.

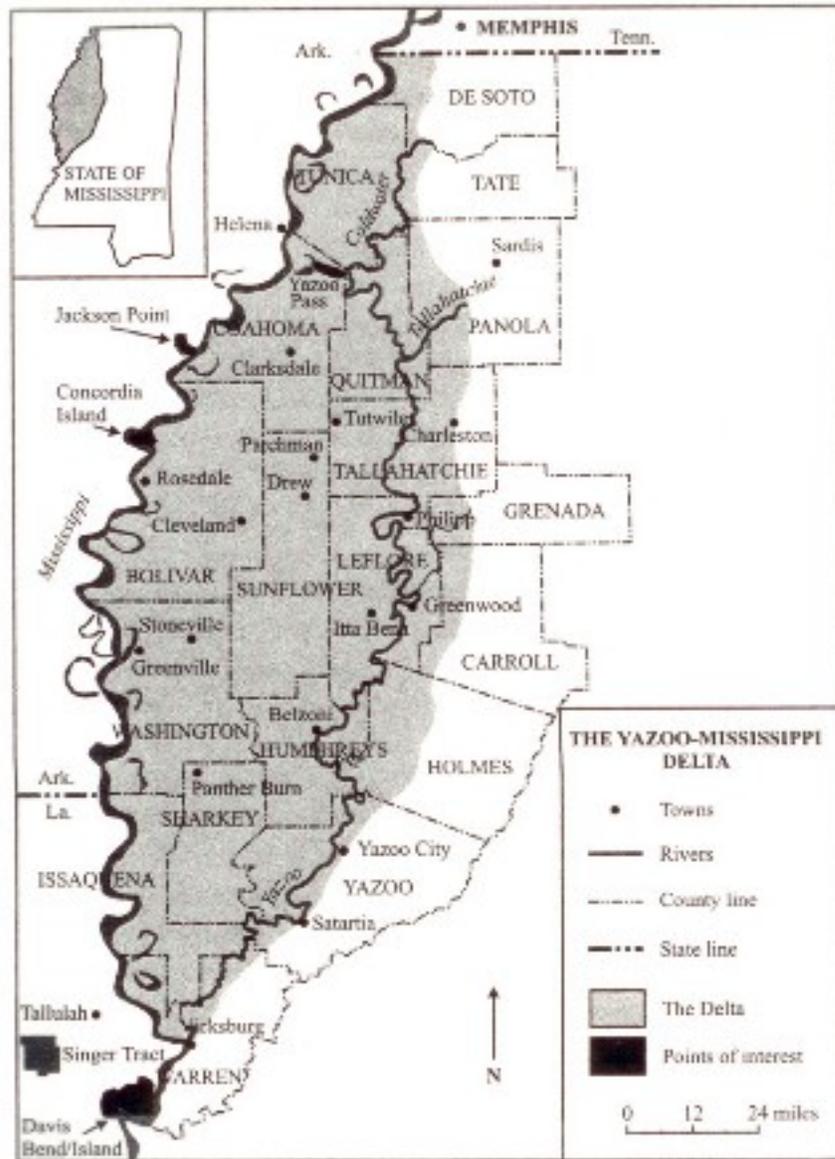


Figure 2: The counties of the Yazoo Delta from Saikku (2005)

The levee building projects of the 1858 Levee Board had left the now defunct institution with significant debt that had accumulated interest during the war and now totaled \$1.5 million (Harrison, 1961). At the same time, many planters were unable make

their tax payments during the cotton slump and labor restructuring of the post-war period, and had forfeited land to the state and the defunct Levee Board. In order to raise funds for new levees, the state created a Liquidating Levee Board in 1867 to sell these lands and repay the debts of the 1858 Board (Saikku, 2005). This process was cumbersome, however, largely due to confusion over land titles, and delayed the rebuilding of the levee system.

Beginning in the late 1860s, there was a series of unsuccessful efforts to rebuild the levee system in Bolivar, Washington, and Issaquena counties. Although taxes were collected, it was difficult to sustain the effort without a coordinating institution. In 1877, the state legislature folded county-level levee boards in Bolivar, Washington and Issaquena counties into the Board of Mississippi Levee Commissioners – which remains active today (known locally as the Mississippi Levee Board). The Mississippi Levee Board raised funds through taxes on land and the cotton crop, and by 1882 had built the mainline levee to an average height of seven feet (Harrison, 1961).

From its founding, the Mississippi Levee Board has been an important link to power – a connection between the local power structure to the state, and eventually to the federal government. A seat on the Mississippi Levee Board became a coveted position. The largest and politically savviest planters each took their turns serving on the levee board, some using that institution as a springboard to other offices at the state and national scale.⁸⁵

⁸⁵ The levee board provides an interesting example of the horizontal integration of power in the Delta. Few planters in the Delta resembled family farmers of other parts of the country. Farm size was always large – plantations were almost always run with the labor from hundreds or thousands of sharecroppers. Planters did not work on the farm, they had other professions – they were lawyers, merchants, journalists, and

Two other industries entered the Delta in the years immediately following the Civil War: railroads and timber companies. By the 1870s, the legal issues around land titles that arose after the civil war were sufficiently resolved to allow would-be buyers of large tracts of land to feel secure in their investment. One of the first of these large land sales, in 1881, involved two million acres for the Louisville, New Orleans and Texas Railroad, which would run between Memphis and Vicksburg (Brandfon, 1967). Over the next 50 years, thousands of miles of tracks would be laid in the Delta providing a strong rail infrastructure for the region. Railroads catalyzed the expansion of agricultural operations in three ways: moving cotton to market; spurring clearing of new agricultural land by bringing timber interest to the region, and; supporting efforts to improve flood control and drainage.

Once the Memphis and Vicksburg Railroad began construction in the Delta, its corporate officials rapidly recognized that flood protection was important to their business; critical to the construction process, on-going maintenance of track and to growing a customer base in the region. The railroad thus joined with planters in the Upper Delta (Coahoma, Tunica, and Desoto counties) to promote the formation on the Yazoo Mississippi Levee Board. This Board was officially formed by the state legislature in 1884 and took in the interior counties as well as the river counties in the north delta. All Delta counties were now in one of the two levee districts. Thus by the

businessmen. This dual identity has important implications for regional, racial control (See Percy, W. A. (1941). Lanters on the Levee. Baton Rouge, Louisiana State University Press, Woods, C. A. (1998). Development arrested : the Blues and Plantation Power in the Mississippi Delta. London ; New York, Verso.

mid 1880s, with a push from the railroads and the help of the state and federal government, the Yazoo had the first regionally-comprehensive flood control system.

The Onset of Federal Involvement

While Mississippi was recreating a regional approach to flood control, the issue resurfaced at the national level. In 1874, at the request of the Congressional delegation from the Lower Mississippi, Congress again authorized a survey of flooding problems in the MAV, creating a commission that combined military and civilian engineers.⁸⁶ The commission reported that levee strengthening was the answer to the regions flooding problems and testified that the states of the MAV had insufficient resources to address the problem and that, without federal intervention, little would be accomplished.

In 1879, two years after the Mississippi Legislature created the Mississippi River Levee Board, Congress created the Mississippi River Commission (MRC), the first federal body to provide a coordinated federal approach to the Mississippi River.⁸⁷ Composed of civilians and representatives of the Army Corps of Engineers, the MRC provided a forum for military and civilian engineers to address issues that pertained to the entire river. The MRC's first charge was to develop a plan for flood control and navigation and submit that plan to the Secretary of War.⁸⁸ It immediately began a series

⁸⁶ The tension between civilian and military engineers is a well-documented part of the story of flood control on the Lower Mississippi see Barry, J. M. (1997). Rising tide : the great Mississippi flood of 1927 and how it changed America. New York, Simon & Schuster, Camillo, C. A. and M. T. Percy (2004). Upon Their Shoulders: A History of the Mississippi River Commission from its Inception Through the Advent of the Modern Mississippi River and Tributaries Project. Vicksburg, Mississippi, Mississippi River Commission

⁸⁷ For a detailed history of the founding of the MRC, see Camillo, C. A. and M. T. Percy (2004). Upon Their Shoulders: A History of the Mississippi River Commission from its Inception Through the Advent of the Modern Mississippi River and Tributaries Project. Vicksburg, Mississippi, Mississippi River Commission .

⁸⁸ No construction was authorized only planning.

of investigations from the headwaters to the head of passes (Moore, 1972).⁸⁹ Although the MRC studied flooding problems, congressional authority and funding restricted river improvement projects to navigation. Flood control was to remain a state responsibility, because it was felt that the benefits accrued locally, implying that the costs should also be borne by local populations. The one exception was situations where flood control and navigation interests coincided, in which case the MRC was given authority to address flood control.

Congressional language gave lip service to flood control, but appropriations were focused on those projects that supported booming river traffic. Congress experimented with extending MRC limited authority and even more limited funding for flood control in 1881, when the River and Harbor Act expanded the MRC's jurisdiction up the tributaries of the Mississippi as needed to accomplish its mission (Moore, 1972). The MRC, however, focused on low-flow navigation because the Commissioners reasoned that by confining the river to a definite channel for navigation, they could limit the damage the river could inflict on flood control levees. In this way, the MRC hoped that navigation would backstop flood control (Galloway, 1980). Despite the expansion of jurisdiction in the tributaries, the MRC did not adopt a comprehensive view of flood control, and settled on a levees only approach by the early 1890s.⁹⁰ Even when the commission worked with

⁸⁹ The head of passes, where the Mississippi River splits into three separate parts each proceeding to the Gulf in a separate direction, was the subject of early navigation concerns and ideological contestation as to how to deepen the pass to relieve the trade bottleneck that developed at low tide.

⁹⁰ For a detailed description of the early debates of Eads vs. Humphries on the levees only approach, see Barry, J. M. (1997). Rising tide : the great Mississippi flood of 1927 and how it changed America. New York, Simon & Schuster, and Camillo, C. A. and M. T. Percy (2004). Upon Their Shoulders: A History of the Mississippi River Commission from its Inception Through the Advent of the Modern Mississippi River and Tributaries Project. Vicksburg, Mississippi, Mississippi River Commission

the levee boards in the MAV, it was reluctant to call this work flood control because of its limited Congressional mandate.

In 1897, a major flood drew attention to an emerging problem with the institutional system of flood control for the entirety of the Lower Mississippi Valley. The Yazoo-Mississippi Levee Board had been working throughout the 1890s to strengthen and raise the height of levees along the Upper Delta. However, the Arkansas side of the river was also raising and strengthening its levees on the West side of the Mississippi (Saikku, 2005). As noted by Ellet in 1852, constricting the river with levees raises the height of the flood. In the 1897 flood, the new levees on the Arkansas side of the river increased flood heights and caused a major levee break, known by the French term crevasse, on the Mississippi side. The resulting outcry transformed flood control from an internal matter for the state of Mississippi into a contest between the two sides of the river. This dynamic would continue even after flood control became a federal responsibility.

The flood of 1897 notwithstanding, floods in the 1880s and 1890s became gradually more controlled.⁹¹ At the turn of the century, with both population and agricultural activity in the region increasing, local concern about flood control waned as farmers and other residents of the valley began to feel more secure (Galloway, 1980). This security was short lived, however, as damaging floods in 1912, 1913, and 1916 renewed calls for federal assistance with flood control (Camillo, 2004). In addition to the flooding, World War I increased overseas demand for raw materials and rail traffic was

⁹¹ See Galloway, G. E. (1980). Ex post evaluation of regional water resources development : the case of the Yazoo-Mississippi delta. Fort Belvoir, Va., U.S. Army Engineer Water Resources Support Center Institute for Water Resources. for his analysis of the reduction in the number of levees broken.

unable to provide the needed transportation to international ports. This renewed interest in shipping on the river Mississippi, which had been gradually decreasing since the 1890s.

In an effort to get federal assistance for the MAV, the Mississippi River Levee Association was formed, including bankers, planters, lawyers, editors, and manufacturers from the region. Because of its economic power and wide geographic reach it quickly became one of the most powerful lobbying organizations in the country (Galloway, 1980). In 1917, in response to this and other lobbying efforts, Congress passed the Ransdell-Humphreys Flood Control Act authorizing more funding for levee construction, and strongly affirming the policy of cooperation between local levee districts along the lower Mississippi (Harrison, 1961). The new law allowed the Federal government to pay up to 75 percent of the cost for new levees, while the local sponsor—usually the levee district—had to finance rights of way plus 25 percent of the cost of construction. The Act was aimed at bringing the existing levee system up to current engineering standards – making them higher and stronger and placing revetment on the riverbanks to prevent levee loss due to caving banks.⁹² The levees built by the Yazoo-Mississippi River Levee Board in the Delta were already up to the new standard but those built by the Mississippi River Board were not, thus this law helped bring the lower Delta into compliance (Harrison and Mooney, 1993; Saikku, 2005). The act only brought enough funding for the MRC to assist the levee district with existing infrastructure, however, not enough to forge a new, more coordinated system. Flood control remained primarily the

⁹² Revetment is an approach to stabilizing riverbanks with concrete, asphalt or other materials.

responsibility of state and local government, but articulation with federal interests had begun.

It is worth noting that the Ransdell-Humphreys Act was not the only approach to flood control and river management at the time. A competing bill, the Newlands Waterway bill, sponsored by the Progressive Faction in Congress, represented a comprehensive alternative to traditional river management, including a watershed approach to flood control. The Progressives of the early 20th century promoted an increased awareness that the nation's natural resources were being depleted at an alarming rate. With Gifford Pinchot at the fore, the Progressives sought to manage the environment to ensure that most efficient use of those resources. This approach, however, failed to influence the flood control and navigation debates in the MAV.

The Beginning of Change: The Great Flood and its Aftermath

In the summer of 1926, unusually heavy rainfall began to pound the central portion of the Mississippi River Basin. As 1927 began, the rainfall continued. By spring, Mississippi River tributaries from Pennsylvania to Oklahoma had overflowed, causing property damage and death. The Mississippi itself was rising to historic levels and Delta planters were concerned about whether the levees would hold. For weeks while the river rose, work crews of National Guardsmen, police officers, and African American farm laborers fought the flood by raising the levees with sandbags (Daniel, 1977; Barry, 1997)

The power of the Mississippi River at that historic flood stage is difficult to imagine. Eyewitness accounts detail the debris that the river swallowed and carried downstream including roofs and other parts of houses, chicken coops, fence posts, and

scores of dead mules and cows (Barry, 1997). These accounts describe the river devouring large trees only seconds later to catapult them like missiles from the water (Daniel, 1977). They also testified to the force of the water; how the “boiling” water hit the bank with the ferocity to create swirling waves in all directions.

By April a series of large storms swelled the river further and, after weeks of fighting floods, a weak spot in the levee turned into a massive crevasse at Mounds Landing north of Greenville in Washington County. What followed was utter devastation. The crevasse widened quickly until it reached approximately three quarters of a mile (Barry, 1997). The wall of water that poured through the opening was estimated to be 130 feet high (Daniel, 1977). Its volume was estimated to have been 468,000 cubic feet per second, triple that of the Colorado at flood stage, more than twice the flow of Niagara falls, and more water than the entire Upper Mississippi has ever carried, including during the 1993 flood (Barry, 1997).⁹³

Over the next ten days, flood covered one million acres with water up to ten feet deep, extending roughly 50 miles inland and 100 miles south. In the areas close to the Mississippi, the mainline levee was the only dry land and Delta residents fled there to escape floodwaters. In the interior of the Delta, people were forced into trees and onto rooftops. Those that lived in Greenville, the seat of Delta power, were relatively safe from the initial surge as the city had a ring levee that protected downtown from the river.

The flood lasted until August. A total of 185,459 people lived in the portion of Mississippi encompassed by the flood (Barry, 1997) and all were forced from their

⁹³ The Upper Mississippi is the name for the portion of the Mississippi above the confluence with the Missouri River.

homes. Nearly 70,000 stayed in refugee camps, some for as long as five months. An additional 88,000 received food and other supplies from the Red Cross while being housed in temporary shelters. The remaining 30,000 left the region (Barry, 1997).

In the immediate aftermath of the crevasse, the levee itself was the only place of respite for many African Americans fleeing the flood. Near Greenville, sharecroppers filled the narrow spit of land for more five miles (Barry, 1997). Living conditions on the levee deteriorated rapidly. Water and food were in short supply and disease soon became a concern. Rescue efforts were aimed at whites, specifically women and children, offering escape for few African Americans. The resulting controversy over how to help those stranded on the levee provides insight into the regional racial stratification that under girded the social and economic order and permeated all levels of government and civil society.

Chair of the Red Cross in the Delta, William Alexander Percy, regional author and the son of the former U.S. Senator and Delta aristocrat LeRoy Percy, took on the task of organizing an evacuation of the levee. The other members of the Red Cross Committee, while reluctant to pursue an evacuation because they feared losing a majority of farm labor, agreed to support William Alexander's plan. In a dramatic showdown with his son on the levee, however, the elder Percy intervened, arguing the sharecroppers, having lost most of their possessions, were tied to the region and to the planters only by debt and, once evacuated, were not likely to return to the Delta. William Alexander felt this argument betrayed too much concern for money rather than principle. Senator Percy pushed William Alexander to consult again with the Red Cross Committee, arguing that

this decision was too important for him to make alone. The Committee, now understanding that this decision was driven by William Alexander, rather than his father, reversed themselves, and the steam boats and barges that had arrived for the evaluation were sent away nearly empty (Barry, 1997). This incident underscored how the practices of quasi-state actors like the Red Cross supported the region's racial formation by putting economic prospects of planters ahead of human welfare considerations.

The relief efforts in the following months were similarly marked by planters' concern over losing the region's agricultural labor force. In an effort to keep administrative costs low, the federal government used local Chapters of the Red Cross to administer much of the relief effort. These chapters were considered well organized and were trusted because they were run by recognized members of the community (like the Percy family). In the Delta, this meant that the planters on the Red Cross Committee were in charge of the relief effort. In order to ensure that African Americans would not leave the region, the Red Cross established camps, policed by the National Guard, where African American sharecroppers and other farm laborers were forcibly detained (Cobb, 1992; Woods, 1998). As Daniels (1977, p. 108) explains, "the tragedy of the policed concentration camps was not so much the willingness of the National Guard to prevent movement or even of the planters to demand closed camps, but that almost all white Mississippians had become so accustomed to controlling black labor by force that such prescriptions seemed appropriate and necessary."

Even those lucky enough to escape forced confinement were further economically disenfranchised by the relief effort. For example, there were reports of planters taking

free relief supplies from the Red Cross, selling them, on credit, to African Americans and then using this debt to keep sharecroppers on their land (Cobb, 1992). As Daniels (1977) points out, one of the most salient and lasting messages of the flood emergency was that in the world the Deep South, although more than 50 years had passed since the end of slavery, little had changed.

This treatment of African American sharecroppers and other tenants created concerns in prominent African American communities around the nation. The African American community, buttressed by a Tuskegee Institute investigation confirming the poor treatment, was able to force Herbert Hoover, then Secretary of Commerce, to create a Colored Advisory Commission to inquire into the treatment of African Americans. The cause got lost in Hoover's successful presidential bid, however, and no lasting changes emerged (Woods, 1998).

The flood fundamentally altered the region physically, economically, and politically. In total, 16,570,627 acres were flooded in 17 counties in seven states for between four and five months (Daniel, 1977). Total deaths and injuries will never be known precisely, but deaths numbered in the hundreds and injuries in the thousands. The flood also had significant political ramifications at the national level. Hoover used the relief effort, specifically the federal public relations machine, to launch his successful bid for the white house.⁹⁴ Regionally, the most far-reaching implication was to make Mississippi River flood control the province of the federal government.⁹⁵

⁹⁴ For more on this, see Barry, J. M. (1997). Rising tide : the great Mississippi flood of 1927 and how it changed America. New York, Simon & Schuster.

⁹⁵ For more on the development of the flood control mission of the Corps of Engineers see Camillo, C. A. and M. T. Percy (2004). Upon Their Shoulders: A History of the Mississippi River Commission from its

The Federal Era in the MAV

In response to the flood, Congress began a long debate about whether and how the federal government should intervene in flood control issues. In the end, promoters of federal involvement prevailed, arguing that the floodwaters came from outside the MAV and had increased in volume for reasons beyond the control of MAV residents. In short, Congress concluded that there was no way that the six states of the MAV could assume the financial responsibility for adequate flood control.

In debating federal action, two proposals for flood control dominated Congressional attention. The Jadwin plan, developed by the Chief of Engineers⁹⁶ Edgar Jadwin, focused on the mainstem, arguing that with proper river management, a large-scale flood could be avoided without using reservoirs and other mechanisms in the tributaries. The competing proposal, developed by the MRC, took the opposite approach suggesting that holding water in the tributaries and allowing for water to leave the channel through distributaries was critical to integrity of the mainstem. In the 1928 Flood Control Act, Congress adopted the Jadwin plan, largely because of the price tag – working in the tributaries made the MRC plan more than twice the price of the Jadwin plan. This Act, for the first time, made flood control a federal responsibility, albeit in the geographically limited region of the MAV. The statute was designed to unite all the

Inception Through the Advent of the Modern Mississippi River and Tributaries Project. Vicksburg, Mississippi, Mississippi River Commission or Harrison, R. W. (1961). Alluvial Empire; a study of state and local efforts toward land development in the alluvial valley of the lower Mississippi River, including flood control, land drainage, land clearing, land forming. Little Rock, Ark, Delta Fund in cooperation with Economic Research Service U. S. Department of Agriculture.)

⁹⁶ The Chief of Engineers is the highest engineering position in the agency, it is always held by a military engineer.

relevant local and state agencies that had been involved in flood control and maintained an important role for local levee boards, providing rights of way for levee building and maintaining levees once they were built (Harrison and Mooney, 1993)..⁹⁷ The cost of construction, however, was fully covered by the federal government. It would be only another eight years before Congress would extend the Corps' authority to address flood control beyond the Mississippi, to the rest of the nation.^{98,99}

The Act appropriated \$325 million dollars to develop a comprehensive flood control system for the MAV. The lead agency for implementation, however, would not be the MRC, but rather the Corps.¹⁰⁰ The Act also created standards for levee building, as well as for other river control measures such as floodways, reservoirs, channel realignment and other features. These standards, coupled with the involvement of a new lead agency, the Corps, were designed to end the disputes between the east and west banks over levee height (as well as disputes between levee districts) (Camillo, 2004). The MRC would still exist, but largely in an advisory role, since the Corps would now be responsible for implementation. This marked a transition for the MRC in terms of the source of its power. To date, it had been viewed as a source of the best engineering

⁹⁷ The local sponsor is responsible for what is known as routine maintenance. Major maintenance is a federal responsibility.

⁹⁸ For an overview of the development of the 1936 Flood Control Act see Arnold, J. L. (1988). The Evolution of the 1936 Flood Control Act. Washington, DC, Office of History, Army Corps of Engineers.

⁹⁹ The development of the plan for protecting the Lower Mississippi is well documented in Harrison, R. W. (1961). Alluvial Empire: a study of state and local efforts toward land development in the alluvial valley of the lower Mississippi River, including flood control, land drainage, land clearing, land forming. Little Rock, Ark., Delta Fund in cooperation with Economic Research Service U. S. Department of Agriculture, Reuss, M. (1982). "The Army Corps of Engineers and Flood Control Politics on the Lower Mississippi." Louisiana History 23(2), Camillo, C. A. and M. T. Percy (2004). Upon Their Shoulders: A History of the Mississippi River Commission from its Inception Through the Advent of the Modern Mississippi River and Tributaries Project. Vicksburg, Mississippi, Mississippi River Commission

¹⁰⁰ Before the 1928 Act, the Corps had virtually not role in the Mississippi Valley, where the MRC was the lead agency.

expertise available. When the Corps took the reins, the MRC became the organization that understood the local issues, had connections to the local communities, and would stand with those communities against the Corps when necessary. Throughout the emergence of the modern flood control regime for the MAV, the MRC played a vital role in resolving thorny issues that the Corps and Congress were not be able to resolve to the satisfaction of the local stakeholders.¹⁰¹

Almost as soon as the 1928 flood control act was passed, Congress began to amend it. The amendments broadened its scope and added funds to the effort, gradually remaking the Jadwin plan in the image of the MRC plan. By the early-1930s, however, Congress, the MRC and the Corps began to dramatically rethink parts of the plan, starting with its most controversial feature: floodways. MAV residents had never liked the Jadwin Plan because it employed floodways, a locally unpopular mechanism for reducing flood heights downstream by conveying and storing floodwater on top of land, farmland in this case.¹⁰²

Historically, large floods had been delivered to the gulf through the distributaries on the western side of the river. In the Jadwin plan, floodways would be used to mimic this process. In the event of a major flood, a fuseplug levee at the head of the floodway could be blown and the levee would crevasse, opening the floodway as a diversion

¹⁰¹ The MRC although increasingly marginal, continues in this role today performing semi-annual inspection tours of the river that allow local interests to testify about their concerns about the river and flood control.

¹⁰² Four additional floodways were proposed but were much less controversial. They include: the Atchafalaya (in Louisiana), the Morganza (in Louisiana), the Bonnet Carre (in Louisiana) and the New Madrid (in Missouri).

channel for excess water. Levees were to be constructed on each side of the floodway (in some cases, natural levees were already present) to contain the diversion.

Floodways were used only on the west bank. Hills created a topographic barrier on the east bank, and distributaries were forced to empty back into the river at Vicksburg, which did not reduce downstream flooding. While plans called for a flowage easement to be paid to landowners in a floodway, the uncertainty of living in a designated floodway made many Arkansas residents uncomfortable. As a result, the Boeuf floodway in southeastern Arkansas, designed to divert waters before they reached the more geographically confined lower portions of the river including New Orleans, quickly became very controversial (Moore, 1972).

Concerns about the Boeuf floodway were heightened by the continuing tension, between the Mississippi and Arkansas sides of the river, over which bank would receive greater protection. The Mississippi side had, by historical accident, been given a three foot advantage in levee height, which those on the Mississippi side were loathe to relinquish but created great concern on the Arkansas side.

In the spring of 1932 and 1933, during the height of the Depression, the Yazoo Delta experienced major flooding, both backwater flooding from the Mississippi, and headwater flooding from the tributaries to the Yazoo that flow from the loess hills marking the eastern boundary of the physiographic region. Loess is highly erodible and natural and agriculturally induced siltation from the hills choked the channels of the Yazoo and its tributaries, making them too small to carry the spring runoff. In 1932, local efforts to control the flooding failed and more than 100,000 people were forced

from their homes (Harrison and Mooney, 1993). This scenario was repeated the following spring, and attracted Congressional attention.

Congress directed the Corps to develop a plan to provide “complete” protection to the Yazoo Basin with seven reservoirs in the hills (Reuss, 1982). The Mississippi Congressional delegation, led by Congressman William Wittington whose district encompassed most of the Yazoo Basin, sought to have a Yazoo Headwaters project, encompassing the reservoirs, built at federal expense as part of the National Industrial Recovery Act in 1933 (Reuss, 1982). Of course, increased flood protecting on the east bank would mean more potential flood risk for the west bank.¹⁰³ As a result, the delegation from the MAV was not unified in its support for the Yazoo project, and it was not included in the 1933 legislation. Yet, with the planning and administrative processes for this project well underway at the Corps, Mississippi interests would soon have another chance to address flooding in the Yazoo basin.

East vs. West the Development of the Modern MR&T Project

While Mississippi politicians regrouped for another run at protecting the Yazoo Valley from flooding, engineers at the Waterways Experiment Station (WES)¹⁰⁴ were studying additional techniques that promised to reduce the need for the Arkansas floodway without compromising the level of protection on the Mississippi side. In the early 1930s, Harley Ferguson, a WES engineer whose ideas about flood reduction ran counter to those of Jadwin, began to experiment with what he called channel rectification.

¹⁰³ Reservoirs in the upper reaches of the Yazoo Basin, when combined with channel improvement plans had the potential to increase flooding on the Arkansas side of the river by delivering a larger plus of floodwater to the Mississippi.

¹⁰⁴ The 1928 Act created the Waterways experiment station in Vicksburg, Mississippi. This lab has become one of the primary sources of hydrologic engineering information on the Mississippi and other rivers.

Channel rectification, like many river control concepts, was an idea borrowed from the river itself. The Mississippi river's channel is always in flux as it migrates slowly west across the alluvial plain.¹⁰⁵ Many of the oxbow lakes in the MAV are old channels that the river cut off as it scoured new, more efficient channels through the "necks" of these bends in the river.

The MRC and the Corps had steered away from human created cut offs, concerned that they could produce violent changes in the river and exacerbate flooding problems by causing banks to cave. This attitude began to change, in 1929, when the river forged a natural cut off without serious repercussions (Camillo, 2004). Ferguson formulated a plan to use cut offs to reduce flood heights and increase channel capacity on the river at the Greenville Bends, a particularly treacherous part of the river just below the city of Greenville (Figure 2). Lower water at the Greenville Bends would lower water levels at the mouth of the Arkansas River, reducing or possibly eliminating the need for a floodway. The channel rectification and corrective dredging programs were highly controversial, but by the mid 1930s they had reduced backwater flooding by two feet in the White and Yazoo backwater areas and by ten feet in the Red River backwater area (Camillo, 2004).

Even in the absence of Congressional authority, the Corps sought to advance plans to address flooding in the Yazoo. Using authority in the 1928 law to develop flood control plans for tributary systems of the Mississippi River subject to flooding, in 1934 the Corps completed a report on the Yazoo and the St. Francis (in Missouri) proposing

¹⁰⁵ The current system, of course, has more or less stopped the western movement with what is known as the River Control structure directing most of the water down what we know as the mainstem of the Mississippi rather than allowing it to proceed down the Atchafalaya.

reservoirs to address localized flooding (Camillo, 2004). Ultimately, after further study, the Corps advised against expending federal funds for these projects to address localized flooding. The MRC, speaking up for local interests, contended that Congress had made flood protection in the entire alluvial valley a national problem through the 1928 Flood Control Act, and adopted the Corps' flood control plans. Because the St. Francis and Yazoo were the only tributaries to flow entirely within the alluvial valley, the MRC suggested that the Corps undertake the proposed projects as part of the larger system of the alluvial valley, with the stipulation that local interests provide rights of way (Camillo, 2004). This was another step in dismantling the Jadwin plan and moving towards the original proposal of the MRC.



Figure 3: An outdoor model of the Greenville Bends from Camillo (2004)

Between 1928 and 1936 several Congressional bills suggested abandoning the Boeuf Floodway, but it was not until the Chief of Engineers of the Corps directed the MRC to restudy the issue that these suggestions were taken seriously. The MRC used its local credibility to return a report that proposed scrapping the Boeuf Floodway in favor of a smaller, theoretically less controversial Eudora floodway. It also proposed modifications to the Atchafalaya Floodway downstream as well as the Yazoo project.¹⁰⁶ The Arkansas side still did not like the idea of a floodway, but the Mississippi side insisted that it was necessary (Moore, 1972).

In 1936, Congressmen from Mississippi, Arkansas and Louisiana worked together to craft the Overtone Act,¹⁰⁷ which included a compromise on the Eudora Floodway based on the idea of just compensation for those that lived there. The act also included authorization for flood control in the Yazoo Basin (which was also recommended in the MRC Report) (Camillo, 2004). The final plan for the Yazoo focused on reservoirs in the Hills but also had the flexibility to substitute channel improvements and levees in the Delta and was fully federally funded. In the end, four reservoirs were built, beginning in 1937 with the final one completed in 1955. But concern over the smaller Arkansas floodway remained strong and thus the shape and geographic extent of a project on the Mississippi side continued to be debated.

¹⁰⁶ The plan also addressed the thorny issue of compensation for landowners in the floodway suggesting that all land within the floodways would be compensated at a rate not to exceed 1.5 times market value and to speed acquisition; the states would do the acquisition and turn the land over to the feds.

¹⁰⁷ Named after one of its sponsors, the Senator from Louisiana and not to be confused with the 1936 Flood Control Act passed which served to formalize the federal role in flood control and prevention outside of the Mississippi Valley.

The region's new flood control system, most importantly the channel rectification project, was tested for the first time in 1937, when the second highest flood on record was safely contained by the system.¹⁰⁸ The flood came dangerously close to overtopping the levees in a few places and caused serious underseepage, but avoided any serious damage.¹⁰⁹ The event proved to the Corps and the MRC that there was a potential to carry a large flood without depositing water on to productive land. After the flood, Edward Markham, then the Chief of Engineers, suggested that "I am now of the opinion that no plan is satisfactory which is based upon deliberately turning floodwaters on homes and property of people, even though the right to do so may have been paid for in advance" (Camillo, 2004). As a result, Markham recommended that Congress authorize \$52 million to purchase the floodway lands and retain them in federal ownership.

Even when offered acquisition, locals objected to the Eudora floodway. In 1938, Senator Overtone from Louisiana and Congressman James Whittington from the Yazoo Delta again developed a compromise. They proposed de-linking the construction of the Morganza¹¹⁰ and Eudora floodways (the land acquisition and construction of the two had been administratively tied together in the authorizing legislation) allowing the construction of the Morganza Floodway to go forward without the Eudora. Opposition to the Eudora floodway continued, and in August 1939, Congress asked the Corps to review the project again. The Chief of Engineers, once again referred the politically thorny issue to the MRC asking them to do a review of flood control efforts in the Lower River. The

¹⁰⁸ While the mainstem levee was in place, work on what is now called the Mississippi River and Tributary Project continues today.

¹⁰⁹ It also helped to identify weaknesses and established important changes in construction techniques and priorities. The lessons learned from this flood were incorporated into the Flood Control Act of 1941.

¹¹⁰ The Morganza floodway is the smaller version of the Atchafalaya floodway.

resulting MRC report suggested a floodway may still be needed but for less water than previously thought (Moore, 1972). The MRC study also revealed that the mainstem of the Mississippi was now carrying more water, more efficiently than anyone thought possible in 1928 and that it might be possible to confine even the largest floods between the levees (Camillo, 2004). Finally, the MRC report drew attention to persistent concerns about backwater flooding in the Yazoo and the Red Rivers.

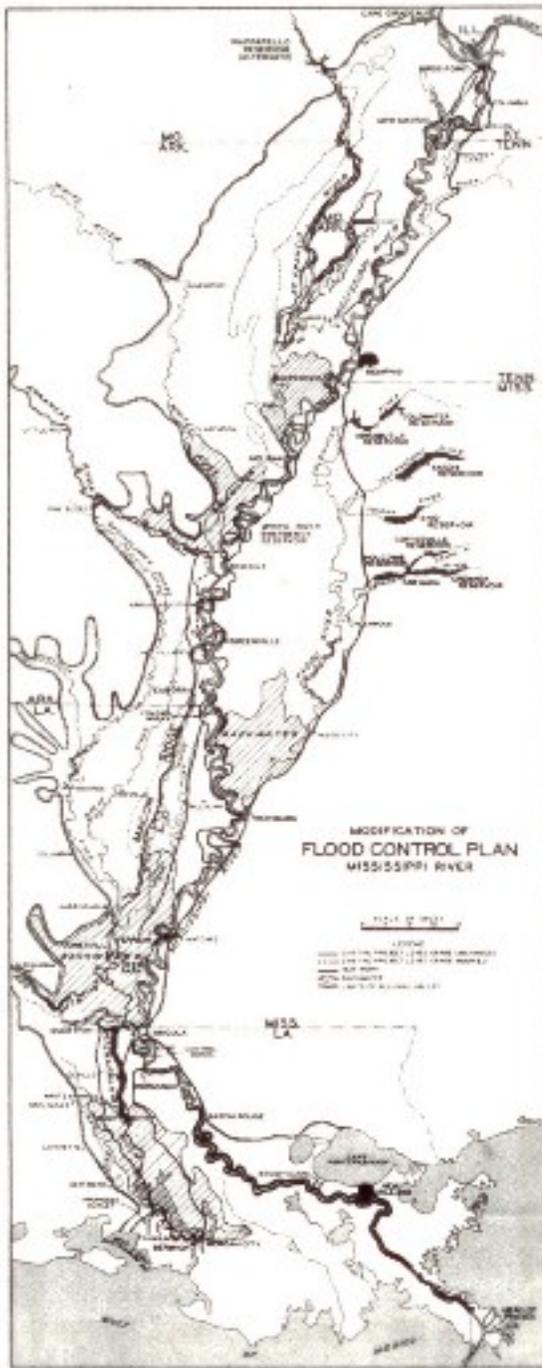


Figure 4: The Congressional Approved modifications to the Jadwin Plan in the late 1930s. The backwater areas are shaded. From Camillo (2004)

It its report to Congress (U.S. Congress, 1941), the MRC developed five plans to address the problem, three of which included different sized floodways. By definition, these three alternatives involved land acquisition and were very expensive. Plan four involved equal protection for both banks of the river by raising the levee heights on the Arkansas side. This would also protect 285,000 acres in the Red River backwater area, but would deny the Mississippi side its three-foot levee height superiority and the security that flood waters would be dispersed through a floodway on the other bank (Camillo, 2004). In addition, this plan would raise the flood crest at Vicksburg, which would inundate an additional 247,000 acres in the Yazoo Backwater area. Plan five would raise levees on both sides giving the west side protection from the what the MRC believed to be the largest possible flood, but maintaining the superiority of the east bank. It involved in inundation of just 27,000 acres in the Yazoo backwater (Camillo, 2004).

To protect the Yazoo backwater area,¹¹¹ the MRC recommended that the Mississippi River Levee be extended along the east bank of the Yazoo River and tie into a levee authorized by the Overtone Act. The MRC recognized that this, would cause drainage problems in the lowest part of the backwater (Camillo, 2004), but felt that it would reduce flooding in the region as a whole. To address these drainage problems, the MRC proposed floodgates, culverts, and pumps to move the water trapped behind the levee into the Mississippi when both the Yazoo and the Mississippi are at flood stage. This plan induced interests on the Mississippi side of the river to endorse a compromise

¹¹¹ While the mainline levee decreased flood heights in the Yazoo backwater by more than two feet, local interest in flood control in the backwater continued to grow. This greatly exceeded the Corps' expectations for the effects of the mainline levee on flood waters in the backwater Congress, U. S. (1964). House Document 308: Mississippi River and Tributaries Project. Washington, DC.

that was close to plan five in the MRC report. This was considered an interim plan because the west bank had to defer complete protection until the channel rectification program was fully developed. The MRC turned the report over to Congress without picking an alternative, although the Commissioners did let Congress know that they felt that plan five was probably the best option (Camillo, 2004).

On August 18, 1941 Congress passed a compromise Flood Control Act modeled strongly on the MRC's plan five: Levees would be raised, east bank superiority would be maintained, and the Corps would develop a plan to provide protection to the Yazoo backwater area. Thus, the Yazoo Pumps project was born of a compromise between Arkansas and Mississippi that spelled the end for the Jadwin Plan. The Act eliminated the controversial Arkansas floodway and, by extending flood protection up the tributaries and into a backwater area, created a much broader federal project. In total, \$666 Million was authorized for Lower Mississippi Flood Control between 1928 and 1941, a close match to the \$684 million estimated cost of the original 1927 MRC proposal (Camillo, 2004). The subsequent debates over providing flood protection to the Yazoo backwater areas will be taken up in the next chapter.

Through the early 1960s, the Corps continued to request assistance from the MRC with specific engineering issues. These requests, however, became less frequent after final outline of the MR&T was set in 1941. Thus the MRC has become less central to both river management and providing local input and buying to the MR&T project and

has taken on more of a ceremonial role.¹¹² Today, the MRC conducts biannual “cruises” of the river to assess conditions and holds hearings on current flood control and navigation concerns. Despite the MRC’s reduced clout, these hearing are still taken seriously by river interests, many of whom travel long distances to board the boat and travel for a day while giving testimony to their concerns.¹¹³

Changes in Atmosphere: The Emergence of Environmental Governance

With the architecture of the modern project in place by 1941, the Corps had only to implement the plans, contingent of course, on appropriations from Congress.¹¹⁴ In 1955, in conjunction with those continuing appropriations, Congress began a comprehensive examination of the Corps’ work on the Lower Mississippi River. By this time, an emerging environmental consciousness had begun to take root in Washington, if not in the MAV and flood control was no longer desirable at any cost. The resulting review was extensive, encompassing the completed and planned work in each basin in the system. Agency heads from all natural resource, economic development and other relevant agencies were consulted. In all, six volumes of information were produced for the Congressional review.

The section on the Yazoo basin also included a letter from the Assistant Secretary of Agriculture bringing attention to concerns about loss of bottomland forest that both

¹¹² For example, of the three civilians currently serving on the MRC, one has served thirty years, the two other close to ten. None of the three have engineering expertise, which is required by statute of the civilian members.

¹¹³ Reinvigoration of the MRC is an idea currently circulating in the Washington DC policy community. Suggesting that the MRC has the authority to provide broad oversight to the Mississippi Basin, environmental groups are calling for the composition of the commission to be updated and for the organization to be charged with charting an integrated approach to river management that could serve as a model for other basins.

¹¹⁴ This is not to say that the MR&T project was not modified almost continually between 1941 and the present, but rather that the elements of the modern project were solidified by 1941.

support fish and wildlife resources and potentially provide important timber resources.

The Assistant Secretary of Agriculture explained (U.S. Congress, 1964):

“The program will result in a substantial increase in crop and pasture production...Most of these areas have the greatest potential for the production of high quality hardwood timber in the United States. In view of the increasing demands for such forest products and the relatively high income that may be realized from this use, it is evident that careful consideration should be given to programs, which will decrease the potential production of high quality hardwood lumber. These forest areas also are valuable for wildlife habitat, and forest management under the multiple use concept, will enhance such values”

From this point forward, the issue of bottomland forest destruction became an important issue in debates about flood control in the region. The same letter also addressed the need to examine the environmental effects of the project at the scale of the MAV, rather than of individual components. It was argued that individual project components of the flood control strategy are related to each other “only in the broadest sense and there is no indication that the basin has been studied as a physical and economic entity or that its relationship to national problems have been given careful consideration” (U.S. Congress, 1964). This is the first allusion to the question of the cumulative environmental effects of flood control and agricultural development, one that was to emerge prominently as drainage and agricultural expansion proceeded in the MAV.

Shortly after commissioning this review of the MR&T project, Congress continued to bring environmental scrutiny to flood control with the passage of the Fish and Wildlife Coordination Act of 1958. This law required that impacts of flood control

on fish and wildlife resources be given as much consideration in the calculus of project benefits and costs as any other project benefit. The Coordination Act also meant that the U.S. Fish and Wildlife Service (FWS), as well as the state agencies charged with protection of fish and wildlife resources, would be required to make recommendations to the Corps as to how to protect fish and wildlife resources in conjunction with each flood control project.

Ten years later, in 1969, Congress passed the National Environmental Policy Act, (NEPA), which imposed new requirements for documentation of the environmental effect of all federal projects. NEPA applied to all projects that had not reached construction phase, so even the long-authorized flood control projects for the Yazoo Delta would now require a new level of environmental analysis.¹¹⁵ NEPA requirements (along with those associated with the Clean Water Act passed in 1972) provided the hook that conservation groups used to intervene legally in debates about the economic benefits and environmental degradation associated with federal flood control projects.

Flood Protection for the Upper Yazoo Delta in the Age of Environmental Concern

In the Yazoo Basin, by the early 1970s, the Corps had completed its work on the reservoirs in the hills and was ready to continue the downstream. There were two important, large-scale projects that remained on the Corps' docket for the Yazoo Delta: The Upper Yazoo Channel Improvement Project (authorized in 1936) and the Yazoo

¹¹⁵ NEPA was a critical movement in the development of an infrastructure for environmental protection. It is important to remember, however, that unlike the Clean Water Act or the Endangered Species Act, which require that the lead agency prove a project will not harm the environment, the NEPA process requires only that environmental impacts be noted and evaluated.

Backwater Project (authorized in 1941).¹¹⁶ The Upper Yazoo Channel Improvement Project was designed as an auxiliary channel for the mainstem of the Yazoo River. The Yazoo Backwater Project was designed to evacuate the water from the Backwater area, and involved both levees and a large pump.



Figure 5: The Yazoo Backwater Area (from Governor's Advisory Committee on the Yazoo Basin Pumps, 1989)

¹¹⁶ In addition to these two watershed scale projects, there were many small efforts that had very localized flood control benefits.

The Corps began the Upper Yazoo Project first, and met immediate opposition. Local landowners expressed dissatisfaction with the diversion channel moved swiftly to propose a series of channel improvement projects known collectively as the Upper Yazoo Projects. The controversy passed and work continued, but the receptivity to flood control in the Delta was beginning to change.

By 1977, however, the Corps' flood control program was being critiqued far and wide. At the national level, President Jimmy Carter, a substantial critic of national water resources policy, sought to reform water resources policy by requiring that local sponsors of flood control projects make a financial contribution towards project construction, in addition to providing the lands, easements and rights of way that had long been required of them. Such a cost-sharing requirement would be very difficult for a rural area like the Yazoo Delta to meet.

At the region scale, concerns about loss of environmentally sensitive lands were growing, both within the federal agencies and in the environmental NGO community. By the late 1970s, the NGO community and subsequently the media began to pay attention to the unfulfilled promises that the Corps had made for mitigation associated with previously completed flood control efforts (Vicksburg Evening Post, 1978).¹¹⁷ At a public meeting about the Pumps project in Vicksburg, environmental groups claimed that the Corps had only produced 15,000 of a promised 195,000 acres of mitigation. At the same time, FWS began to quantify habitat losses throughout the MAV (MacDonald, Frayer et al., 1979). This FWS publication found that 56 percent of bottomland

¹¹⁷ Mitigation was required for wetlands destruction as well as for losses of other types of fish and wildlife habitat.

hardwoods had been lost between 1937 and 1978, mostly to agriculture.¹¹⁸ Together, the FWS report and the Corps' mitigation obligation began to focus NGOs on the cumulative loss of wetlands values and functions. Although the groundwork for this environmental governance can be traced to the Fish and Wildlife Coordination Act in the 1950s, it was not until the early 1980s that Corps statements and documents began to reflect a sense of environmental responsibility.

By the late 1980s, the Upper Yazoo Projects that had started quietly in the 1970s also had become controversial. Landowners who stood to lose high quality agricultural land to levees and dredge spoils disposal began to oppose the projects. Arguing that winter and spring flooding had never precluded planting and that houses in the area were not affected by flooding, a small contingent of landowners spoke out at local meetings and in the newspapers (Huffman, December 13, 1987). The Mississippi Wildlife Federation quickly picked up on this discord to raise broader questions about the environmental effects and economic justification for the project.

The Corps acknowledged changes in local receptivity to flood control. In an official status report on the project they noted that all of the landowners from which levee right of way is required had expressed opposition to the project and that condemnation thus will likely be required (Huffman, 1987). Residents of Greenwood (Figure 4), however, the relatively urban area that had experienced the bulk of the flood in the late

¹¹⁸ This report also found a correlation between the completion of Corps flood control projects or smaller scale projects completed by the Soil Conservation Service and loss of bottomland forests. Specifically, they found that in 32 of the 33 counties in the study area with initiated and completed projects had corresponding net losses of bottomland forests. Counties with high losses tended to be those with more than one completed project. For more details see MacDonald, P. O., W. E. Frayer, et al. (1979). Documentation, Chronology, and Future Projections of Bottomland Hardwood Habitat Loss in the Lower Mississippi Alluvial Plain. Vicksburg, Mississippi, US Fish and Wildlife Service.

1970s and early 1980s, held firm in their support for the project. A Corps spokesperson was quoted in the paper explaining, “given the Delta’s almost unwavering support for past Corps projects, any shift in public opinion is significant. But what it boils down to is that all the good projects where everybody jumps in and says ‘yeah, yeah’ are over” (Huffman, 1987)

The Upper Yazoo Projects generated so much controversy that Mississippi Governor Ray Mabus took the unusual step of intervening with the federal agency, asking the Corps to halt the projects while a special committee was appointed to review all the projects in the Yazoo Basin and report on environmental impacts and flood reduction benefits of those efforts.¹¹⁹ The Governor’s Advisory Committee on the Yazoo Basin Projects was made up of eleven members, including five from the Delta. The Committee’s report recommended that the Upper Yazoo and Backwater Pump Projects should be reviewed and redesigned to reduce the environmental impacts of the efforts (Governor's Advisory Committee on the Yazoo Basin Projects, 1989).¹²⁰ The five members of the committee from the Delta issued a separate minority report, however, in which they urged completion of the authorized flood control efforts without further delay

¹¹⁹ In addition to the Upper Yazoo Projects and the Backwater Pump, the Report also examined a project in the Sunflower Basin. I do not go into the debates over the Sunflower River work because most of it was completed without controversy before the Mabus report. Since that time, the Sunflower River work has become extremely controversial and is currently on hold due to a decision of the Mississippi Supreme Court.

¹²⁰ There were a total of six recommendations including developing suggestions on when mitigation land should be acquired, the necessity for sediment reduction plans for project construction, the desire for improved communication between the Corps and the public, the need for a state committee to review the progress of the projects, and the suggestion that the review and redesign of projects in the Yazoo basin would not endanger full federal funding of these projects Governor's Advisory Committee on the Yazoo Basin Pumps. (1989). Final Report and Recommendation to Governor Ray Mabus. Jackson, Mississippi, State of Mississippi.

or study. Unfortunately for Governor Mabus, the report was issued just before a major Delta flood and his political support quickly waned.

Governor Mabus subsequently asked the Corps to stop all construction in the Delta until the projects could be restudied. After some negotiation, the Corps agreed to stop ongoing construction on two of the most controversial aspects of the Upper Yazoo Projects. Eventually, the Corps also agreed to release new studies of all projects including the Yazoo Backwater Pump.¹²¹ The MR&T project would remain incomplete, at least until the Corps went back to the drawing board to produce more environmental and economic data, on the basis of which it could argue that flood control would help the regional economy without hurting the environment.

In the Upper Yazoo, new, less environmentally harmful project designs eventually won favor with local landowners who had opposed the projects, and this work has continued to today. The Upper Yazoo Projects are scheduled for completion in 2012, the most recent debates over the Pump will be pickup up in the next chapter, with particular attention to how both race and nature have been mobilized in the debates over the project.

Conclusion

By the early 1990s, the environmental movement had begun to shape the flood control debates in the Delta. Both state actors, like Fish and Wildlife Service, and the NGO community were vigorously engaged with the Corps over the effects of flood control projects on natural resources. The visibility and power of this movement, combined with the regulatory framework created by NEPA and the other environmental

¹²¹ Although at the time, because of the required cost sharing arrangement, the Backwater project was considered dead until it was revived by an act of Congress in 1996.

laws of the late 1960s and early 1970s, created a situation in which environmental degradation could be quantified and tracked, and cumulative impacts evaluated. This enabled scientists at the federal agencies and in the NGOs to track the potential effects of a flood control project on wetlands acres without going anywhere near the site. By the mid-1980s, this new capacity for environmental governance had begun to impact how the Corps understood its work in the Yazoo Delta.

This new governance¹²² was not instantiated before the state (the Corps and its locally-based partners) developed the regional flood control infrastructure required to expedite enough clearing and draining to significantly alter the floodplain forest. In the Yazoo Delta today, less than fifteen percent of the historic floodplain forest remains. This transformation from forest to row crops has come at the expense of both quantity and quality of habitat for fish and wildlife as well as forested areas for human use. The Mississippi Department of Environmental Quality considers less than five percent of the stream miles in the Yazoo Delta to attain the minimum standard of water quality (Guedon and Thomas, 2004).¹²³ Native fish, migratory birds, and forest dependent mammals like the Louisiana Black Bear, have suffered population reduction due to loss and degradation of critical habitat areas.¹²⁴ Environmentalists and the federal natural resource agencies have drawn on these cumulative impacts to backstop their arguments in the subsequent fight over the Yazoo Pumps project, to be addressed in the next chapter.

¹²² While I argue that environmental governance has taken hold, I do not assess its effectiveness.

¹²³ These statistics, while alarming, are not very illuminating because by their own accounting, the DEQ has only been able to sample 18 percent of the waterways in the region. However, of those sampled, very few do not require development of a Total Maximum Daily Load Standard under the Clean Water Act.

¹²⁴ For more on the specifics of species reduction, see Service, U. S. F. a. W. (2003). "Lower Mississippi Valley Joint Venture." Retrieved October 15, 2007.

At the same time, the Mississippi and Yazoo Rivers continue to assert agency, through flooding, which reminds the local populations that despite the sophisticated infrastructure, the danger does not go away. Hurricane Katrina was a major reminder, for many in the region, most of all the Corps, that flood “control” is a misnomer.¹²⁵ Katrina also underscored that relative protection for many in the MAV has come at a cost of increased risk for the communities on the Gulf of Mexico. As the coastal wetlands of Louisiana, deprived of Mississippi River sediment recede and no longer provide protection from storm surges, the Corps has been sent back to the drawing board to come up with a new plan, involving selective reconnection of the river to its floodplain (through removal of the levees) to secure the region from large storm events.

The residents of the backwater area, however, did not need Katrina to remind them that the river has not been fully “controlled,” portions of Sharkey and Issaquena Counties flood regularly – those areas that would be protected by the Backwater Pump. Approximately 329,000 acres are subject to the two-year flood, thus there is a 50 percent chance that these areas will flood each year (U.S. Fish and Wildlife Service, 2001). It is this danger – one that is felt in both economic and human terms – that motivates delta residents to promote flood control. The next chapter discusses the reemergence of the Backwater Pump Project in the mid 1990s, after a legislative change removing the need for local financing. In the new phase of the debate, both pro- and anti-flood control forces embrace a new environmental sensibility, but display it in very different ways,

¹²⁵ Increasingly, the Corps and the Federal Emergency Management Agency are moving away from the term “flood control” in favor of the more accurate (and cumbersome) “flood damage reduction”

particularly in relation to understanding the relationship between the region's natural resources and regional economic development.

Chapter IV: Cotton or Cottonwood the Battle for the Future of the Yazoo Delta

This chapter examines the debates among farmers, environmentalists and others in the Yazoo Delta over whether to build a long-promised flood control project, the Yazoo Backwater Pumps. It continues where the previous chapter left off, using an historical approach to examine the efforts to bring flood control to the backwater from the project's inception in 1941 through its failure to receive approval from the US Environmental Protection Agency in September 2008. This long view of the region – its persistent need for more and better flood control, the ups and downs of the agricultural economy, the emergence of the environmental movement demanding that the values of nature be figured into the equation – is a challenge to present, but also provides an important analytical perspective. By taking the long view, I hope to give you a glimpse of how the state's approach to environmental and agricultural regulation has evolved, how the project itself has changed materially and discursively to reflect those different ideas about state governance, how the environmental community has adapted its critique of the project and the alternatives it offers and how the project is portrayed in terms of who it is to benefit.

Specifically, this long time horizon offers an opportunity to examine the transition away from a state-led regulatory framework – stressing state intervention to deal with inequalities and problems in the economy – to a more neoliberal approach – characterized by the assumption that the market produces the best, even the most just, solutions to economic, social and environmental problems. The literature on neoliberal environments examines the way that nature is commodified, enclosed or privatized, and the processes

through which environmental goods or services are quantified (Holifield, 2004; Mansfield, 2004; McCarthy, 2004; Prudham, 2004; Robertson, 2004b; Robertson, 2006). It also examines the mechanisms through which these changes happen institutionally, as state agencies rework regulation or de-regulation, as well as the shifting discursive context and its implications (Holifield, 2004; Robertson, 2004b).

This chapter seeks to add to this literature by examining the way that the environmental groups involved in the debate have developed a series of rhetorical strategies that give the debate a definitively neoliberal tenor. However, notwithstanding a discursive framing that evokes and validates discourses of neoliberalism, I will argue that the environmentalists are not advocating for a neoliberal approach to environmental regulation. They do not seek to increase the flexibility or profitability of capital, to privatize public resources or to otherwise deepen capitalism's hold over nature. Yet they do strategically deploy the currently popular neoliberal discursive frame to bring attention to an alternative approach to flood control that will allow for more acres of floodplain in forest, more wetlands, and ultimately more ducks and better water quality. In utilizing this rhetoric, however, they run the risk of reproducing a neoliberal discourse that has material effects on policy.

This case also seeks to contribute to the literature on race and nature by examining the ways the ways farmers mobilize race as what others have called a "scale frame" to legitimate their argument that federal funds should be used to support flood control, instead of other measures that might more directly address racial and economic inequality. A scale frame is a type of collective action frame that constructs an injustice

in terms of its cause and potential solutions, while conceptually linking that grievance to a particular geographical scale (Kurtz, 2003).

In this case, farmers blame racialized poverty on flooding in the Delta, suggesting that the problem can only be addressed through a particular form of federal intervention that more closely mirrors a state led solution than a market led one. In making a scalar as well as a discursive move, they are able to bring perspectives from the local African American community to the federal arena, where racialized poverty is an effective lobbying tool. And, in that process, they effectively erase other claims about racial inequality.

This chapter begins with a brief history of the Yazoo Pumps project, highlighting the key events leading up the most recent series of public debates about the project. Then, I turn my attention to these debates examining the make up and rhetoric of both the pro-pump and anti-pump contingent. I argue that they are each putting forth a geographic imaginary for the future of the south Delta. Each imaginary is analyzed for its rhetorical and discursive implications. The chapter concludes with some thoughts on what a longitudinal analysis contributes to understanding changes in regulatory regimes, valuations of nature, and the role of race in these debates.

Background – flood control in the Yazoo Delta

As discussed in Chapter III, the Great Flood of 1927 changed the physical and institutional landscape for flood control in the Delta. Until the 1927 event, flood control was a local affair, legislated at the county or state level. With a river as large as the Mississippi, each state and in some cases each county taking its own approach to flood

control did not produce either a coherent system or the best results. Often levee improvements upstream meant that more water would arrive more quickly downstream, exacerbating conditions there. Thus, the Great Flood was the catalyst for federal involvement in flood control, which brought a more coordinated approach to the basin. The federal plan for the Mississippi involved channel rectification to increase the carrying capacity of the mainstem of the river and constructing a “mainline” levee to contain the river. In addition, the plan relied on floodways and cut offs to reduce flood stages and move water more quickly to the gulf.

This system did not solve flooding problems everywhere in the Yazoo Delta, however. The mainline levee addressed headwater flooding, and was effective in the northern portion of the delta especially close to the mainstem of the Mississippi. However, the lower portion of the watershed was subject to yearly backwater flooding, when the Mississippi River is at flood stage and excess water backs into its tributaries.

While the mainline levee lowered flood heights in the backwater region by more than two feet, which greatly exceeded Corps expectations for reduced flooding (U.S. Congress, 1964), it was not designed to eliminate either backwater flooding from the Mississippi or the headwater flooding from the Yazoo River. It is important to note that, at the time the Yazoo Pump Project was conceived, the Corps considered backwater areas to be important components of the protection plan for the MAV.¹²⁶ These areas, located on both sides of the river, functioned as reservoirs, storing vast quantities of waters and decreasing flood heights. However, as agricultural development in the alluvial valley

¹²⁶ Planning documents from this era describe the role that backwater areas played. For examples of this see the Yazoo and Red River sections of Congress, U. S. (1964). House Document 308: Mississippi River and Tributaries Project. Washington, DC..

proceeded, backwater areas began to be used for crop production. This agricultural expansion into wetter areas, promoted, in part, by the protection offered by mainline levee,¹²⁷ created an economic justification for additional flood control projects to protect the Yazoo and other backwater areas. A political justification came from vocal landowners in these the Yazoo backwater who were paying taxes to build levees that did not protect their lands.

As calls from locals to improve conditions in the backwater gained momentum, the Corps began to rethink their positions on providing these areas with flood protection. The subsequent reevaluation of the value of nature was very typical of the time, a move away from using nature to provide a service and towards developing nature for economic potential. While the Corps underscored that the backwater areas could never be fully protected it began to consider how to provide flood protection for the higher value cropland during ordinary floods,¹²⁸ as long as these areas were still available to serve as reservoirs during more severe floods (Camillo, 2004).¹²⁹

The Yazoo backwater project was created as part of a compromise between the east bank, Mississippi, and the west bank, Arkansas, that eliminated a controversial floodway on the Arkansas side at the expense of an additional 27,000 acres of flooding in the Yazoo backwater region (Moore, 1972). To protect the Yazoo backwater area, the

¹²⁷ In addition, as discussed in Chapter 2, backwater settlement was also hastened by Federal agricultural policy, beginning in the 1930s, which sought to increase farmers' incomes by requiring them to reduce their acreage in cotton. This Federal intervention is widely understood to have subsidized the mechanization of agriculture in the delta, putting cash in planter pockets that they then used to buy tractors and reducing the need for sharecroppers. Many sharecroppers left the region, but some began to clear and cultivate land in the backwater areas, creating "frontier" communities where whites and African Americans sought to establish their own farming operations.

¹²⁸ Ordinary flood events are two to five year floods.

¹²⁹ A precedent for this stance was identified in the 1936 Overtone Act that included limited protection for the White River backwater area.

Corps proposed extending the mainline levee along the west bank of the Yazoo River, tying it into a levee from the Upper Yazoo Flood Control project that had been authorized in 1936.¹³⁰ The Corps recognized, this would cause drainage problems in parts of the backwater when the Yazoo River was at flood stage, but it should reduce flooding in the region as a whole (Camillo, 2004).¹³¹ To address these drainage problems, the Corps proposed floodgates, culverts, and a series of pumps to move the water from the Yazoo (that was trapped by the levee) into the Mississippi when both the Yazoo and the Mississippi are at flood stage. This proposal was designed to protect the backwater area from all but the largest floods, thought to occur once in every 31 years. Congress signed off on this plan in 1941.

¹³⁰ A series of floods in the upper portions of the Yazoo watershed in the 1930s prompted Congress to authorize a federal flood control project. The Upper Yazoo project, authorized in 1936 was a WPA project passed as part of the New Deal to stimulate economic growth and create work.

¹³¹ This is discussed as part of the Mississippi River Commission's plan five in the Chapter III. However, once the law was passed the actual planning and implementation was turned over the Corps.

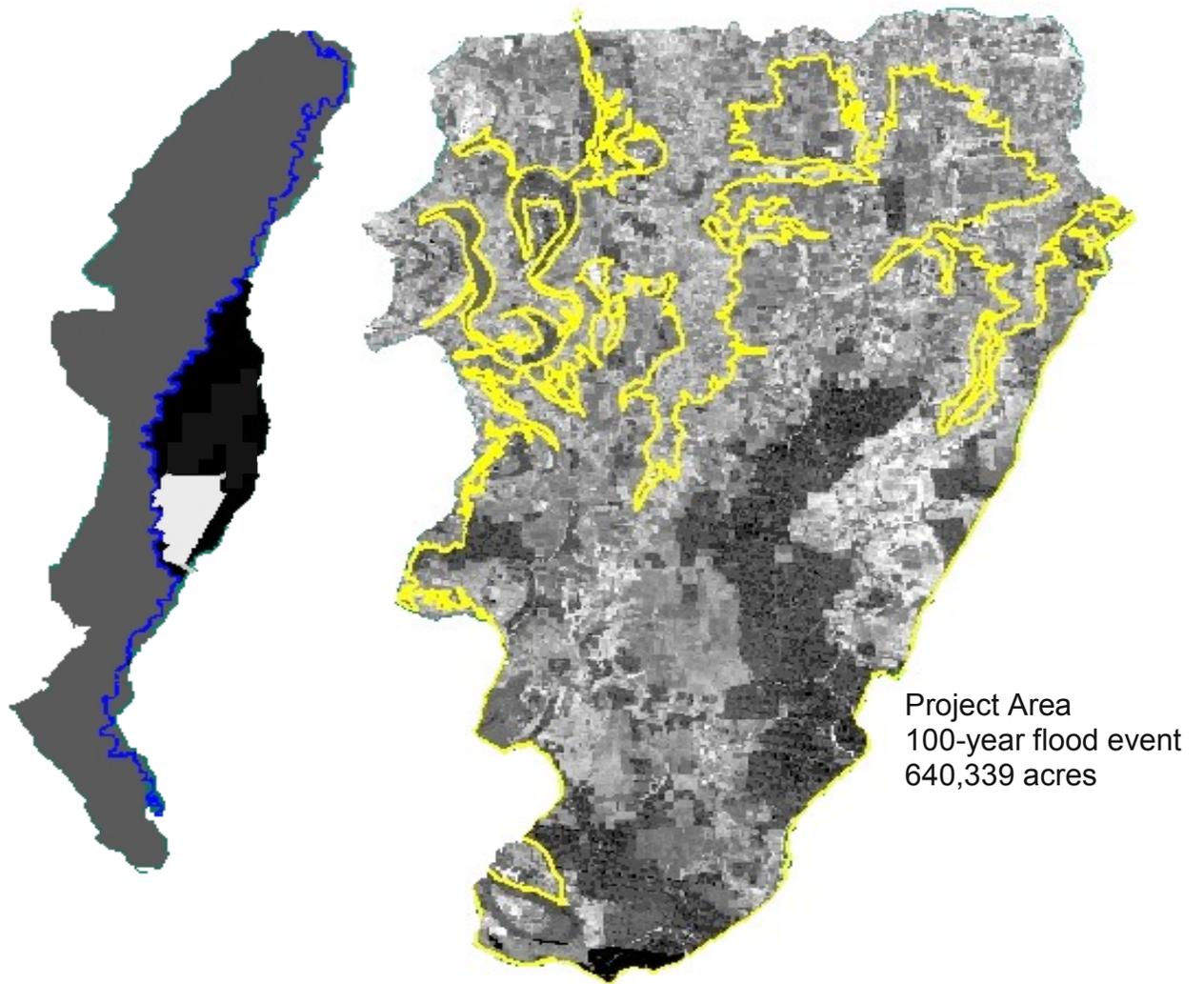


Figure 6: The Mississippi Alluvial Valley with the Yazoo Backwater highlighted in white and the project area for the Yazoo Pumps

Once authorized, pumps project went into the Corps planning process where, as is characteristic for many Corps projects, it went into dormancy. This lasted throughout the through the 1950s while the Corps completed a Congressionally-mandated review of flood control in the lower Mississippi (discussed in Chapter III). For Yazoo backwater, the review produced some interesting critiques. The Corps underscored the importance of the area was for fish and wildlife habitat and reiterated the a federally-owned “sump” area that would encompass 135,000 acres of wetlands would be the highest and best use of the land (U.S. Congress, 1964). The Corps, at that time, found it economically unfeasible to drain the whole area, since benefits to the dryer agricultural land were not enough to justify the costs of the project.¹³²

The Congressional review stirred some talk of deauthorizing the project, but this died out.¹³³ In the backwater, agricultural development continued to progress, increasing the frequency and extent of flood damages. In particular, a boom in soybean prices beginning in the 1960s (figure 2 and figure 3) drove the clearing of thousands of acres of bottomland forests of land too wet to grow cotton (MacDonald, Frayer et al., 1979).

¹³² Whether the federal interest in the sump would be acquired through land acquisition or some type of flowage easement was never clear. This debate about acquisition vs. easements would become a key point of contention between the Corps and the U.S. Fish and Wildlife Service throughout the 1960s and 1970s.

¹³³ As late as 1965, the Corps considered de-authorizing the project entirely, but then Governor Ross Barnett discouraged deauthorization and the project remained dormant.

Commodity Crops in the Delta

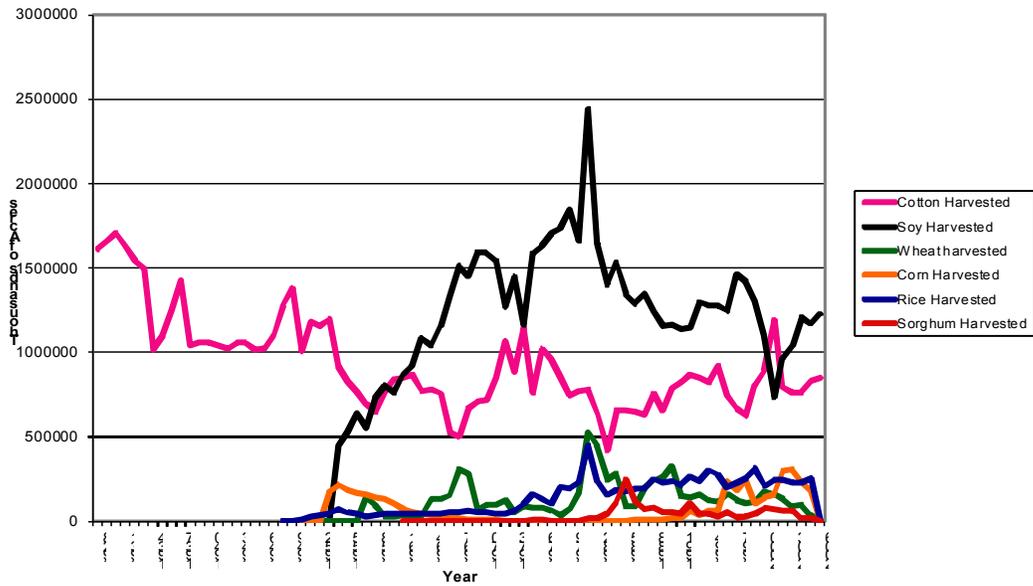
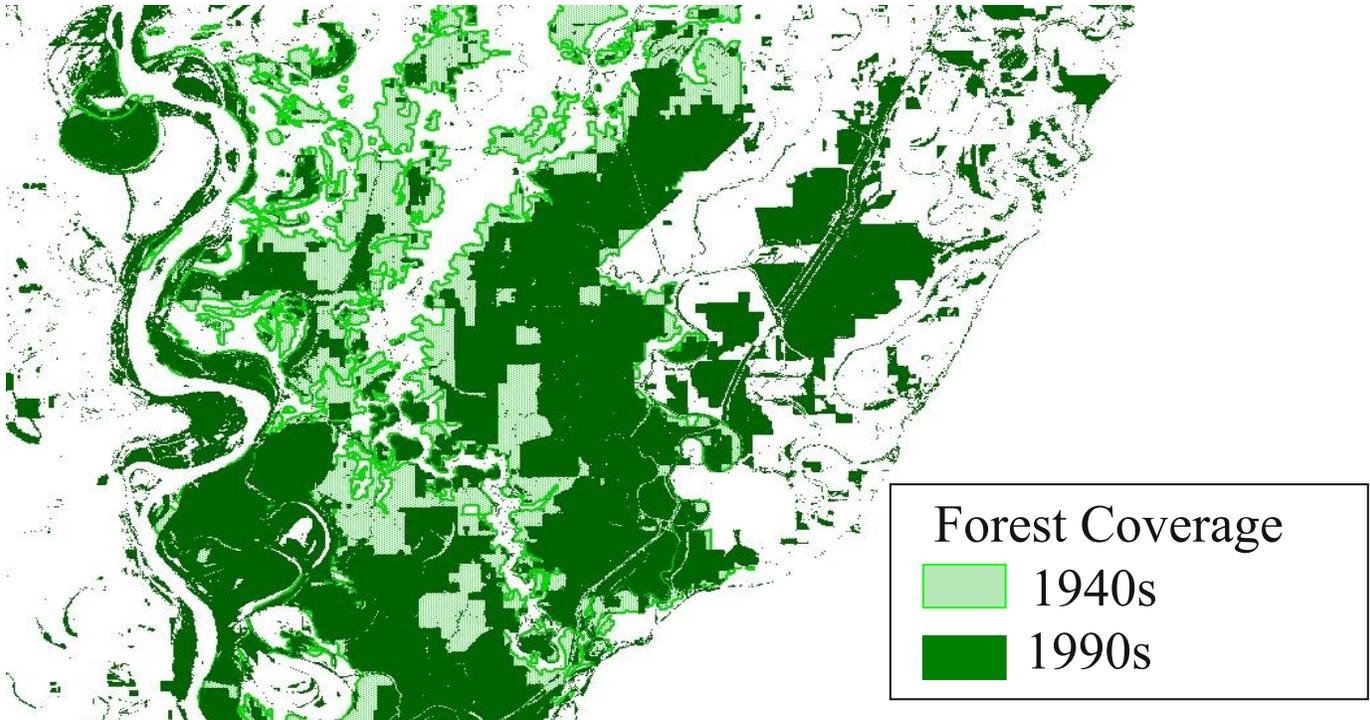


Figure 7: Trends of the six major crops harvested in the Yazoo Delta (USDA NASS, 2006)

Figure 8: Southern portion of the Yazoo Delta, changes in forest cover. Developed with data from of the US Fish and Wildlife Service, Vicksburg Mississippi



In response to the public outcry over major backwater floods in 1973, the Corps reopened the Yazoo Backwater Project study and found that, by including parts of the 135,000-acre proposed sump in its drainage plans, the project would be economically feasible (Corps, 1975). The Corps began to pursue protection for the backwater area, first building the backwater levee, which was completed in 1977, because it was calculated to be the single most beneficial element of the project (Huffman, 1979).

In conjunction with the levee, a large water control structure was placed in Steel Bayou, the outlet for the water from the backwater area into the Mississippi. When the Mississippi River is high, the structure can be closed to prevent backwater flooding. This

levee had significant flood control benefits for most of the Delta, but it did not improve conditions for farmers in the area originally designated as a sump. For these farmers, the backwater levee (and the control structure at Steel Bayou) actually prevented drainage of surface runoff causing flooding from the Yazoo River, even as it prevented backwater flooding from the Mississippi. Locals explain the problem by likening the backwater area to a bathtub that cannot drain without pulling the plug or, in this case, building the pumps. Indeed, farmers in the sump region charged that the Corps, in building the backwater levee, had exacerbated local flooding problems.¹³⁴ In any case, many landowners in the backwater area were extremely anxious to see the project finished with the construction of the “sump” Pump (Galloway, 1980).

The Corps immediately got to work issuing the final EIS on the Yazoo Backwater Pump in 1982 (Corps, 1982). By this time, the environmental movement had arrived in Mississippi (if not the Yazoo Delta) and regional groups, like the Mississippi Wildlife Federation, as well as national groups like the Environmental Defense Fund and the Sierra Club, were already on record as strongly against the project. In addition, the U.S. Fish and Wildlife Service (FWS), with which the Corps is required by statute to coordinate on flood control project, was vocal in its opposition to the effort (Messina, April 5, 1986).

Interestingly, opposition to the Pumps project, dating back to the 1980s, was led almost entirely from national groups not working in the region. Most of the project’s

¹³⁴ The Corps vehemently denied these charges, insisting, as a Corps spokesperson explained in the local newspaper, that the flood control project, “is always protected more than it’s damaged...Of all the things we’ve done there, there is no case where we would actually cause flooding” Huffman, A. (1986). Draining plan for South Delta Draws Criticism. Clarion Ledger. Jackson, MS.

strident critics work in Washington or California. Regional opposition is focused in Jackson where the Mississippi Wildlife Federation and the local chapter of the Sierra Club have their presence.¹³⁵ There are a few African American groups that have included environment among their list of concerns but those groups are primarily focused on environmental health and have not been involved in more traditional environmental issues.

Although the pumps project continued to advance through the mid-1980s, national level developments in flood control and agricultural policy signaled trouble for advocates of flood control in the backwater. First, the 1985 Farm Bill created Swampbuster, a regulatory provision designed to reduce wetlands drainage by making farmers who convert wetlands to agriculture ineligible to receive farm subsidies.¹³⁶ This move signaled federal policies beginning to value environmental services, much the way the Corps had valued the environmental service of flood storage from the inception of the Jadwin plan for through the 1960s. Although, it is important to remember that while Swampbuster was a driven by environmental concerns, it was also a tool to reduce the number of acres converted to row crop production and, as a result, support farmers' incomes. Swampbuster had important ramifications in the Delta where a significant percentage of the soils meet the federal definition for hydric or wetlands soils.

Second, this Farm Bill reversed agricultural policy, which since the 1940s had encouraged expansion of cultivation, to instead reduce acres in production in an effort to improve commodity prices (and therefore farmers' incomes) (Cochrane, 1993; Danbom,

¹³⁵ In 2003, the Sierra Club briefly tried to have a presence in the Delta (through a lone organizer).

¹³⁶ While Swampbuster is still officially on the books, the 1996 Farm bill that decoupled payments from base acres also undermined its effectiveness.

1995). This meant that the Pump would receive additional scrutiny because it could no longer be construed as supporting a US agricultural production imperative. FWS employees and environmentalists were soon quoted discussing how the Corps' project was out of step not only with environmental policy but also with agricultural policy. A FWS employee explained in the paper this way, "much of the current controversy is as simple as this: The times have changed but the project has not. The project was conceived at a time when wetlands and waterfowl were abundant and the agricultural economy was growing and expanding. Today the situation is just the reverse. We've traded much of the Delta's wildlife for surplus crops, but once they're started, these project seem to push themselves, whether the times change or not" (Huffman, 1987 p. 1B).

Third, politicians were pressing to resolve a logjam in national water policy. For more than a decade, controversy kept Congress from passing a Water Resource Development Act (WRDA) – the legislative vehicle used to authorize water resources projects and provide programmatic guidelines for the Corps. Both President Carter and President Reagan withheld support for a Water Resources bill that did not include substantial water policy reforms (for more detail on this see Chapter 5).

In 1986, the logjam finally gave way and Congress passed a WRDA bill that changed how flood control projects would be financed. From the onset of federal involvement in flood control, projects had been paid for by federal funds. Since 1986, projects have been cost-shared 75 percent federal and 25 percent non-federal, dramatically altering the universe of possibility for water resources projects, especially in

poor and rural communities. As the Washington Post explained, "...in a strange way, the philosophical interests of the Reagan Administration and the environmentalists have merged. The administration has been a strong advocate of 'user fees' to pay for public works and services, on grounds that those who benefits should bear the cost. The environmental movement believes, with substantial historical justification, that if big federal dollars are not available, some big federal projects will not be built" (Fever, August 15, 1986). Environmentalists thus enrolled neoliberal discourse (and practices) because they could help to reduce the number of environmentally damaging projects that would be built.

The Yazoo Pump Project was singled out as part the WRDA 1986. The new cost sharing language was to be applied to projects that had not started construction before the passage of the bill in August, 1986. However, in conference, the start date for required cost sharing was moved up to April 30, 1986, a date strategically chosen to stop the pumps project which had broken ground in May. The pumps were the only project in the country affected by this maneuver.

With the advent of cost sharing, the pump project once again went dormant for a decade, as the local sponsor was unable to generate the funds necessary to pay the 25% local contribution (Messina, 1986).¹³⁷ Ten years later, Mississippi Senator Thad Cochran succeeded in including narrowly crafted language into the 1996 WRDA that waive the cost sharing requirements for the Pumps project, leaving the requirement in place for all

¹³⁷ In the intervening decade the pumps project did surface a few times, most notably in conjunction with Governor Mabus' discussed in Chapter III. The panel did examine the Yazoo Project, however, since the project was on hold at the time, it received only brief consideration.

other projects, thereby resurrecting the project once again.¹³⁸ When the Corps resumed its planning process, a full-scale debate on the merits of agriculture vs. environmental restoration began.

The Debate

The debate, which has now raged for 10 years, appears to be a simple question of agriculture vs. the environment, but is actually a debate over different geographic imaginaries for the south delta, different visions of economic and cultural life that will take place there, who will live here, and how they will make a living. Each imaginary, while certainly not without ideological contradictions, projects a vision for the future that correlates with the interests of those defining it. These discursive imaginaries also serve to foreclose other potential futures by limiting the terrain of debate. In what follows, I will sketch out the primary players on each side as well as the strategies that they use to create their case.

The pro-pump faction is made up of large-scale farmers¹³⁹, the Delta Council (the organization that represents farming interests in the region), flood control agencies, the Corps and the local levee board (the project's local sponsor). The supporters of the pump

¹³⁸ Senator Cochran's position on the pumps is always delicately crafted. He is the Senior Senator from Mississippi and is tightly woven into agriculturally-based power structure in the Delta. At the same time, he is strong on conservation issues and has played a major role in increasing funding for the Wetlands Reserve Program. This ambivalence comes across in his comments to a reporter on the subject of cost sharing. The article reads, "Cochran said the project was wrongly singled out for cost-sharing 10 years ago. 'This will permit everybody to take a new look at it,' said Cochran. He said the public can be assured of a careful review of the project, in which environmental concerns and the need for flood control can be balanced. 'They are both legitimate interests,' Cochran said." Reid, B. (1996). Yazoo Pumping Plant has Conservationist Angry at Cochran. Clarion Ledger. Jackson, MS.

¹³⁹ It is important here to note that not all farmers support the pumps. A few farmers have actively spoken out against the project that those individuals, as well as the Mississippi environmental groups, claim there are many more farmer who don't support the project but would not speak out against it publicly. There is no way to evaluate the legitimacy of these claims, but it is clear that the vocal support for the project comes primarily from a small number of farmers who are leaders in the Delta Council.

frame their argument around building the infrastructure necessary to maintain agriculture in the region and create opportunities for economic development for white farmers as well as for the urban African American population living in the small cities in the Yazoo Delta. This group also draws on arguments about the need of farmers competing in the global market place as well as quality of life issues in the areas most effected by the project.

For those in favor of the pump project, first and foremost, the pumps represent a promise of economic prosperity made to the region in the 1940s: A promise that the Yazoo backwater would have the same opportunities to prosper as the portions of the region that were better served by flood control (Galloway, 1980). As one of the south Delta residents explained, “They expect the pumps to turn this part of the Delta into the land of milk and honey they think that the backwater will become as economically prosperous as the north delta as soon as the pumps is built” (Interview with Delta resident #21). Regional residents, many of whom are well versed in the history of flood control in the region, understand this promise as part of the deal cut with the Arkansas side of the river that eliminated the Eudora floodway from the MR&T project. As they see it, Arkansas and the Upper Yazoo both got what they wanted and the backwater region is left unprotected (Interview with Army Corps personnel #34).

In addition to evoking the federal promise, backwater residents also evoke federal failure, claiming that the Corps, when it built the backwater levee actually created the problem that the pumps are designed to alleviate.¹⁴⁰ One farmer explained it this way,

¹⁴⁰ There is no evidence that the backwater levee exacerbated flooding. According to the data available from the Corps, the mainline levee reduced average flood heights by three feet.

“[t]hey created this problem, and they promised that they would fix it. We have been waiting for this for 40 years. We’ve got some of the best farmland in the world, but we can’t depend on it because we’re in the sump area. I’m not sure I would have cleared up this land without the promise of the pump” (Cody, 1997 p. 2). As mentioned in Chapter III, these landowners have been paying levee assessments to cover maintenance and other costs associated with these levees that do not protect their farms.

Second, the pro-pump delegation equates their local economic interest with national interest drawing on competitive nationalism to validate the importance of the pumps project. Alluding to an ideological claim that the Yazoo Pumps will improve competitiveness, they have two arguments. The first is simply that the Chinese, who they see as their major competitor, subsidize their farmers and, as a result, the federal government should both subsidize agriculture and support infrastructure that will increase production. One planter explained, “How can we compete when the Chinese subsidize the lint at the gin? They don’t require their farmers to live with the market price, how can we?” (Interview with Delta Farmer #48). These same farmers call on competitive nationalism in a second way, citing the trade deficit and global restructuring: “with all the jobs and manufacturing leaving, we have to export something. We can’t just import manufactured goods. We have the best farm land in the world but to compete, we need the pumps” (Interview with Delta Farmer #43).

Their third and fourth arguments move away from agricultural and economic interests and invoke quality of life. As the debate progressed and returns on corn and soybeans have fallen, undermining economic rationales, planters made two related claims

that focus on living conditions in the lower Delta. The third claim stresses maintaining a viable population in the two counties most affected by the backwater flooding: Sharkey and Issaquena.¹⁴¹ As one representative of Delta Council explained, “[t]he problem is someone forgot to ask farmers whose families have been in the south Delta for generations what they think about abandoning their land. Not to mention the leaders of the counties and dozens of communities that depend on agriculture for their tax base and their economic livelihood. Wonder if it ever occurs to them why there would be more than 1,500 dwellings, stores, buildings, churches and so on if people didn’t want to live in the south delta” (Laws, 1997 p. 1).¹⁴² Their concern is that without additional flood control, cultivated acres will eventually come out of agricultural production and be returned to trees. Historically, in Mississippi, as in many parts of the country, tax rates are different for agricultural land than for timber land or recreation land. Thus, a dramatic change of land use could mean a similarly dramatic loss of county tax revenue, even without further population loss. This point is particularly salient in Mississippi where money for schools is closely tied to property taxes.

¹⁴¹ The population in Sharkey County, according to the 2000 census, was 6,580, Issaquena was 2,272 (which includes a federal penitentiary). Both these counties have been experiencing long term population decline losing more than 50 percent of their total population since the 1970 census (Minnesota Population Center. National Historical Geographic Information System: Pre-release Version 0.1. Minneapolis, MN: University of Minnesota 2004. <http://www.nhgis.org>).

¹⁴² The figure of 1,500 structures located in the project area comes from the Corps’ 1999 draft EIS and has been widely quoted by the pro-pumps advocates and disputed by anti-pump forces. Senator Trent Lott used the figure famously on the Senate floor explaining, “The pump actually will protect 1,000 homes...I think the most important thing is the human side of this. Year after year and it is almost every year that people have water in their homes.” Mosby, R. and N. Perkins (2003). Yazoo Pump: Whose Homes Here Are Flooding? Deer Creek Pilot. Rolling Fork, MS.

The best source I found on this issue was the local paper serving Issaquena and Sharkey Counties, which did a series of articles examining some of the claims in the 1999 EIS. They found that there were 186 houses in the project area occupied by between 425-450 people. In addition to those homes, other structures include shacks and hunting camps. Mosby, R. and N. Perkins (2003). Yazoo Pump: Whose Homes Here Are Flooding? Deer Creek Pilot. Rolling Fork, MS.

With fear over lower county revenue becoming another reason to move flood control forward, in 2000, Delta Council took an additional step to try to create another disincentive against farmers taking their land out of production. Delta Council worked with legislators from the region to pass a state law that would require counties to tax land converted from agriculture to trees not as forested land, but as agricultural land (Mosby, 2000). This was widely critiqued in the local press because it negated an effort led by Congressman Benny Thompson to require a federal payment in lieu of local taxes for land put into a conservation easement and reforested. A column in the local paper explained, “[o]ne would logically think that even the bill’s proponents would consider that a much better option than socking it to the private landowners. You would think that payments in lieu of taxes from the government would be better than payment in lieu of profits from the farmers.” The column went on to suggest that this law really had more to do with protecting large Delta farmers from larger tax bills than the county budget. Finally, he suggests, that the true intent of the legislation is to protect Delta Council itself as it had, at the time, a dues structure that relied on acres in production to support its operation (Mosby, 2000 p. 6).¹⁴³

Fourth, and finally, although the project is widely recognized to produce primarily agricultural benefits -- more than 80 percent of the benefits accruing to agriculture -- in the late 1990s, the pro-flood control camp began to argue that the pump project was

¹⁴³ It is worth noting that Delta Council is a very controversial organization in the region. While it is the most visible and mainstream group from the area, it also has a reputation for upholding the regional, racially divided power structure through almost any means necessary. It is often called, “the Clan without the sheets” and many are convinced that it is truly “watching” and controlling farmers and politicians in the region. For example, several people I talked to believe that the Delta Council has very sophisticated, and clandestine, recording equipment in their headquarters and possibly other places that it uses to ensure its foot soldiers stay on message.

needed to keep water out of the homes of poor African Americans. In 1998, Delta Council hired Ruby Johnson, an African American woman, who had recently returned to the Delta after retiring from teaching school in Chicago, to work with backwater farmers to create a group known as the South Delta Citizens for Flood Control (Council, 1998). She became the chief spokes person for the movement, traveling to Washington to lobby for flood control and mobilizing the powerful cultural symbol of poor African Americans on behalf of the pumps project.

Ruby Johnson put a human face on flooding in the Delta, a face that could easily stand in for the sort of racialized poverty that the Delta is famous for. Her take on the floods was personal, she explained: “I still have nightmares about the snakes, we use to have to go stay with my grandmother when the water came up, and I remember the snakes on the porches. I’m not ashamed to beg to try to save our homeland, we don’t want to lose what we have here. A lot of our farmers are just hanging on by a thread. If they go out of business, we’re all in trouble. I don’t want to have to move to Jackson” (Laws, 1997 p. 1). Ruby, like the farmers, also picks up on the theme of evacuation suggesting that without the pumps project she would have to leave her “homeland” and move to Jackson.

After Ruby Johnson became a presence in the debate, a shift ensued in the rhetoric of public officials and prominent farmers who began to discuss equality and justice. This rhetorical strategy effectively shifted the debate away from whether agricultural intensification is desirable, towards the need to help poor “black folks” as African Americans are called locally. In fact, the pumps project does very little to assist

African Americans, because there is little need for flood control in the Delta towns where the majority African American population is settled. Indeed, of the nearly 20% of non-agricultural benefits associated with the pumps project, most are focused on preventing damage to roads and other infrastructure, rather than on urban flood control (and I use the term loosely here). This is not to suggest that there should be more focus on urban flood control, because there are few if any problems with flooding in these populated areas. Indeed, both in my interviews and in a series on the pumps project that ran in the local paper, no one reports any significant “urban” flooding. Indeed, when asked directly what she was referring to, Ruby Johnson explained: “I don’t know any folks who get water these days. I did know some folks, but they moved”¹⁴⁴ (Mosby and Perkins, 2003 p. 1)

The Debate

If the pro-pump imaginary is one of continuity, and maintenance of the region’s economic base and existing social structure, the anti-pump imaginary is grounded in change. Since the mid 1990s, the anti-pump forces have tapped into some of the socio-economic changes in the region to develop a different vision of what the Delta can be. Erratic and often low prices for cotton and soy beans have sent farmers looking for new options (see figure 3). At the same time, advances in timber production have made short rotation hybrid-poplars (the cottonwood trees that the title of this chapter refers to), often grown in combination with hardwoods like oaks, a real option for some landowners.¹⁴⁵

¹⁴⁴ Chapter 2 describes the changes in settlement patterns in the Delta. By the early 1970s, most of the African American population moved from farms into the cities of the region Aiken, C. (1990). "A new type of black ghetto in the plantation South." Annals of the Association of American Geographers **80**(2): 223-246.

¹⁴⁵ Landowners plant oaks in between rows of hybrid cottonwood trees. The cottonwoods are harvested after 20 years and regrown from the stump. They are then harvested again at 40 years. By this time, the slow-growing oaks, which prefer to establish themselves in the shade of the cottonwoods are mature

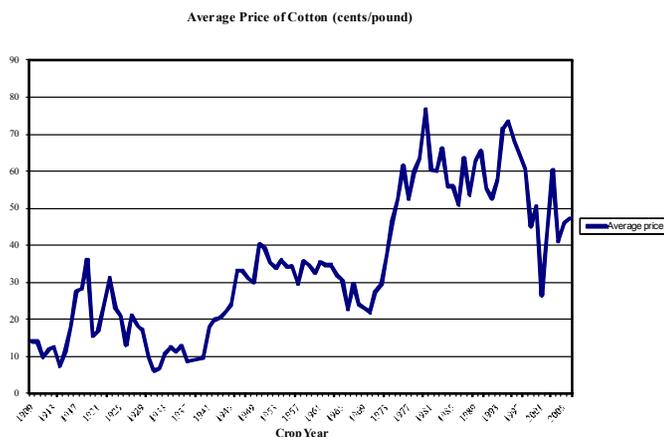


Figure 9: Average Price of Cotton 1909-2005 (USDA NASS, 2006)

The farm bill has also created a series of programs aimed at removing marginal agricultural land from production and generating environmental benefits that collectively brought new options to the farmers of the Yazoo Delta. The most important of these, the Wetlands Reserve Program (WRP) allows farmers to receive fair market value for removing land from agricultural production, placing an easement on that land and restoring the area to a wetlands/upland mosaic. Although Delta Council initially tried to discourage farmers from entering the WRP (Reid, 1998),¹⁴⁶ the program is lucrative and flexible enough to be very attractive and was quickly in high demand, especially for older farmers interested in retirement. In some counties, including Sharkey and Issaquena -- the two most affected by the pumps project, the local county committees that administer

enough to shade out resprouting cottonwoods, are close enough to harvest to make long-rotation timber financially viable for some landowners.

¹⁴⁶ As discussed above, the Delta Council has concerns about any program that promises to remove acres from production. Not only does taking acres out of production threaten the economies of scale in the region but it also threatens the organization itself which lives off of the dues that farms pay.

the farm bill, which are closely tied to Delta Council, have capped enrollment because locals are afraid of threatening economies of scale for agricultural production.¹⁴⁷ In total nearly 50,000 acres in the lower Delta have been enrolled in the program, more than 95% of all the land enrolled state-wide (personal communication from US Fish and Wildlife Service, 2006).

By 2000 then, the landscape was beginning to materially change, and land coming out of agricultural production and into trees was the talk of the conservation community. Most of this was fueled by federal programs, like the WRP, but some was driven by opportunities for carbon sequestration after studies determined that the region holds great potential to sequester carbon in both slow-growing hardwood trees and hydric soils. Starting in the late 1990s, utility companies have established several large reforestation projects in order to accrue carbon credits. Together, government program and the potential carbon market have stimulated the conservation community to think about how these opportunities could be packaged into a different vision for the future of the Delta – an imaginary for alternative economic development.

What emerged was the argument that ecologically compatible economic development, which does not require flood control, should be prioritized above agriculture, which is dependent on flood control. The conservation community began promoting the idea of reallocating Corps funds authorized for the pump to a non-structural flood control project. The project would involve the federal government holding easements on frequently flooded land, restoring those areas to wetlands, and helping landowners create a long-term income stream through what they call nature-

¹⁴⁷ The history and ramifications of these county-level committees are discussed in Chapter 2.

based tourism – hunting, fishing, bird watching, and canoeing. Other federal programs, like the WRP, could also fuel restoration and opportunities for economic alternatives to agriculture. Environmentalists envision putting this together with casinos in the North Delta, with efforts to develop tourism around sites associated with the musical tradition of the Delta Blues or civil rights issue to create an alternative to agriculture.

In making a case for their vision of change, conservationists first suggest that agriculture is no longer socially viable. Farmers are getting older and the state of Mississippi has the oldest average age for farmers at nearly 58 (Hollis, 2005). Young people do not want to grow cotton and the region has been losing population steadily since before World War I (Table 1, p. 25). As one environmentally active farmer explained, “There are real local flooding problems in a few places. Those could be taken care of with a scaled down project and the savings could be used to acquire marginal farmland from willing sellers for conversion to wildlife preserves. That would be the answer to a prayer for a lot of farmers” (Huffman, 1987 p. 2B).

Second, the anti-pump group point to low cotton prices and high subsidies and suggest, as one interviewee explained, “they are farming the programs. They can’t make money without being on the federal dole” (Interview with environmental groups staff member #53).¹⁴⁸ Another conservationist explained that, “large-scale replanting of floodplain forests will be cheaper than continuing heavily subsidized farming of soybeans. No one is suggesting that we stop farming the high ground. It is these environmentally sensitive, marginally-productive agricultural areas that we are talking about” (Interview with environmental groups staff member #58). Agricultural subsidies

¹⁴⁸ These interviews were conducted in 2003 and 2004 when prices were indeed lower than they are today.

have become a lightning rod for criticism and internationally and the anti-pump contingent has been eager to contribute to that critique locally while there is pressure to reduce subsidies, particularly for cotton. This tack too resonates with the free market ideology associated with neoliberalism.

Third, conservationists also tap into neoliberal ideas about valuing nature for the services it provides, when they are quantifiable and measurable. One prominent NGO in the debate proposed a plan they portrayed as, “environmentalism jives with fiscal conservatism. They want to spend \$200 million for a pump that will then require nearly a \$1 million a year to run – no one is thinking about the out year expenses. Offering to buy out those who live in the floodplain instead of funding flood control projects such as a proposed Yazoo pump would better the quality of lives of those choosing to sell and move as well as save money and help the environment. How much are they willing to spend to move people out of the flood plain. It’s nonstructural flood control, would you rather have better homes or a \$200 million ditch in your backyard” (Oeth, 1997 p. 4A). Indeed, EPA paid Len Shabman, a well-known agricultural economist from Virginia Tech, to do an analysis of taking frequently flooded land out of agricultural production and using that land to growing trees instead. With payments for an easement to use that land as part of a non-structural flood control project and the income derived from the sale of the timber, he found that this scenario could be at least as economically advantageous as row crop agriculture (Shabman, 2000).

In sum, the conservation community’s imaginary then is one of change based on a reevaluation of the economic potential of nature. The Anti-pump imaginary is hoping to

bring new forms of economic development to the region. New economic opportunities, of course, would likely bring constituencies, new people that could, over time, destabilize the existing agriculturally-based power structure. Change is not likely to come quickly to the Delta, but the prospect of new constituencies raising their voices has caused significant anxiety for the old guard.¹⁴⁹

Analysis of Key Elements of the Debate

The Yazoo Pumps Project reflects the different regulatory regimes that it has persisted through. It originated as a New Deal project, typical of the projects produced in a state-led regulatory environment, with farmers of the Delta were looking to federal government to help them make their land more profitable through agricultural intensification. Because this project has endured so long, it has been touched by the neo-liberal agenda but changed little, at least from a material perspective. Cost sharing, a hallmark of the neo-liberal reform, was imposed but later, through the strength of the Congressional delegation, eliminated. In recent years, the pumps project has been discursively tied to expansion of agricultural subsidies, the last bastion of state subsidy entitlements.

This case study provides insights into how such a shift in regulatory regimes has affected the way that nature is both understood and valued by those involved in the debate. Unlike other, more classic environmental battles, is not about beautiful places or charismatic endangered species: The Delta is visually compelling primarily in its

¹⁴⁹ There are many example of this anxiety. One of the more salient one is a recent controversy over where the Corps should site a visitors' center for the National Wildlife Refuges in the region. The potential sighting of the center within Sharkey and Issaquena Counties brought a full assault from Delta Council, presumably because it would reduce the total acreage in cultivation and therefore reduce the rationale for the pumps.

unrelenting flatness. Rather, even environmentalists have sought to promote concepts of nature that are strategic and instrumental – nature as a purveyor of economic services (flood control and water quality improvement) and a propeller of economic development (through nature-based tourism). Nature is commodified and its benefits quantified by the environmentalists and natural resource agencies to argue for more and more restoration to provide more value. As the debate progressed, they found new ways to quantify and commodify nature, arguing that the ecological values of wetlands create economic values that are comparable with or better than traditional structural approaches to flood control. It is important to note here that the environmentalists, despite the prolific neoliberal rhetoric, still see the state as taking an active role in addressing the issues in the lower delta. Environmentalists were not advocating for privatization or enclosure, but rather for a public interest in private land in the form of easements.

In essence, this debate is a strange twist of ideological fate that troubles the dominance of neoliberalism. The farmers who value markets and competitiveness are arguing for a state-led project (without local cost sharing) that will both enable agricultural intensification and bring additional dollars associated with price supports. By contrast environmentalists, who often argue against a neo-liberal agenda, want cost sharing and precise measurement to value nature for its “performance” of services.¹⁵⁰

Environmentalists’ strategic use of the rhetoric and quantification technologies associated with of neoliberalism is not designed to enhance capital’s ability to infiltrate and commodify ecological processes. In fact, the environmentalists are arguing for an

¹⁵⁰ It is worth noting that the ideological role reversal is not uncommon in natural resource debates including those surrounding mineral and grazing rights.

approach to flood control that involves increasing the public stake in land ownership in the region, through fee-title acquisition and flowage or conservation easements. The invocation of neoliberal ideas is not really surprising. As others have pointed out, environmentalism and neoliberalism have grown up together and share a good bit of spatial-temporal DNA. However, whether or not environmentalists intend to advance capital's interests, the practice of deploying this discourse of neoliberalization has material effects. By engaging in this discourse, the environmental community lends legitimacy to the idea that the market best encourages the production of environmental goods. For example, the work commissioned by EPA, and performed by a university and environmental NGO examining non-structural alternatives for flood control has been pointed to as the basis for developing a market for carbon and water quality improvement in the region.¹⁵¹

These efforts to use markets to increase the quantity and quality of environmental goods are also interesting in the ways that they reflect structural changes associated with neoliberalism. Government agencies do not have the staff time or, in many cases, the expertise, to sort through the ways that markets for these services might actually work. Thus both the scientific work – developing benchmarks for carbon sequestered by different species in different soil types – and the institutional/administrative work – sorting through the details of the administrative and regulatory mechanisms needed to create these markets, is being taken up by partnerships of NGOs, state and federal

¹⁵¹ Here I see my work intersecting with Morgan Robertson, M. (2006) "The nature that capital can see: science, state, and market in the commodification of ecosystem services." *Environment and Planning D* 24: 367-387 scholarship on mitigation banking, where he is looking at the ways that environmental regulation is being reworked by the need to quantify and demonstrate the environmental outcomes of mitigation banking by certifying the quality of the restoration.

agencies, universities and private foundations.

This case also illustrates how race and the idea of environmental justice can be mobilized to secure, rather than undermine, the state's role in the racial formation of the Yazoo Delta. There is a long history of local politicians and powerful farmers using the region's notoriety for African American poverty to bring resources to the region. Published accounts exist of locals orchestrating opportunities for publicity during floods by sending out African Americans in boats with reporters in order to climb on roofs and be photographed (Reid, 2000). This case is strikingly similar; a discourse of the need for racial equality is mobilized to attract resources to the region that, if they were distributed according to both historical patterns and current projections, will do little if anything to materially improve the lives of African Americans. Yet, by mobilizing the mantle of racial equality, this tactic has limited the potency of contrasting representations of the needs of poor African Americans or other marginalized groups.

Finally, this case study highlights important points about scale. Both factions make strategic use of scale-framing to bring claims to the scale at which they are most effective (Kurtz, 2003). Farmers' strategic use of racialized poverty as a scale-frame to focus their efforts to bring additional appropriations to the pumps project take the issues surrounding racialized poverty to the scale at which they can be most effective in attracting funds, the federal scale. This move casts Delta residents (white and African Americans) as victims of federal failures to implement flood control rather than beneficiaries of both federal flood control and federal farm subsidies. This is effective as

a potent counter-framing to the environmentalists' critiques of the pumps project and the attendant farm subsidies as inefficient and anti-competitive.

The anti-pumps group also makes use of scale-framing, although in a very different way. The environmental community, as mentioned earlier, is almost completely absent from the Yazoo Delta – a few are located one and a half hours away in Jackson but many of the key players are as far away as Washington, DC or in San Francisco, California. For these interests to be formulating an alternative future for the Delta requires them to establish their standing as credible constituents of the resources of the Delta.¹⁵² What they lack in local credibility, they seek to make up for as taxpayers, guarding the public interest, or as natural resource stewards, pointing out the global importance of this area (the Lower Yazoo Delta is a RAMSAR site, a designation given to wetlands areas of international importance). Both these avenues for legitimacy are well trodden by environmentalists and easily criticized as prioritizing nature over local communities. They remain, however, the conservation community's claim on its "interests" in the Yazoo Delta.

Conclusion

This narrative is, as of today, unfinished. Although as of this writing, another chapter of the controversy has closed. The final EIS for the Pumps project was released, in November 2007 (Corps, 2007). The pump itself and the benefits it would convey were largely unchanged, but the project now includes the Corps purchasing easements and reforesting nearly 60,000 acres in the one- and two-year floodplain of the Yazoo River, as

¹⁵² Ironically, Ruby Johnson, despite spending most of her adult life away from the Delta, has instant credibility as a local probably in large part because of her race.

a non-structural supplement to the traditional flood control project. The release of the EIS drew predictable responses. It was written up negatively in the New York Times, which bemoaned its potential environmental ills (Editorial, 2007), and positively in the Vicksburg Post, which extolled its possible economic virtues (Messina, 2007). After a series of hearings in the region, in September, EPA's administrator vetoed the project because of the implications for wetlands loss (NWF, 2008).¹⁵³ This marks only the 13th time that EPA has exercised its veto power under Section 404 of the Clean Water Act since the establishment of the wetlands regulatory program in 1972.¹⁵⁴

The veto was a victory for conservationists, but does not necessarily mean a final end to the controversy. Lawsuits will be filed on behalf of agricultural interests not willing to give up the quest for more reliable flood control in the Delta. Even as the environmentalists celebrate the veto, some of the most powerful forces affecting regional economic development continue to be pushed and pulled in opposite directions. On the one hand, the ethanol boom and other forces have pushed agricultural prices up, much to the delight of Delta farmers who had two great years, many planting corn on land that had never grown anything but cotton (since before the civil war). At the same time, the 2006 WTO decision upholding the challenge that Brazil and other nations brought against US cotton subsidies signals a change in U.S. farm subsidies that will, at minimum, refocus payments on non-market distorting practices, if not scale them back significantly.

¹⁵³ EPA has the power to oversee the Corps' administration of the wetlands regulatory program.

¹⁵⁴ EPA officials are widely quoted suggesting that in the previous 12 vetoes a total of less than 8,000 acres of wetlands would have been affected while the pumps would adversely affect at least 67,000 acres, according to Corps estimates. It is worth noting that other estimates of the wetlands affected are much higher, closer to 200,000. This discrepancy is an interesting part of the story of the pumps that bears examination in another venue. Grunwald, M. (February 2, 2008). A Green Day for Bush. Time.

Chapter V: The Corps and Environment: Friend or Foe?

“No more lawless or irresponsible federal group than the Corps of Army Engineers has ever attempted to operate in the United States, either outside or within the law.” – Harold Ickes (Maass, 1951)

“The most untouchable empire in the United States, as powerful in its field as the FBI or the CIA and as difficult to oppose.” – Gene Marine (1969) in *America the Raped*

For much of its 200-year history, the US Army Corps of Engineers (Corps) has been a lightning rod for criticism. Since the 1950s, the Corps has been notorious for large, expensive, landscape-changing civil works projects that raise the ire of environmentalists and tax payers groups. The purpose of this chapter, however, is not to examine such debates, but to examine the Corps’ response to change – changing Congressional mandates, changing political conditions and changing views of the role of flood control. In particular, I seek to understand how, in the midst of so much change, the agency is, on occasion, able to resist change.

I am interested in this question largely because of the Yazoo Pumps project, detailed in Chapter IV. The Yazoo Pumps project is widely criticized as a relic of an era before projects were responsive to environmental interests, yet it survived well into the era when the Corps considers itself to have integrated environmental concerns into all navigation and flood control projects. The question, then, is how the Yazoo Pumps Project has been kept in bureaucratic limbo notwithstanding such criticism for more than 60 years, irrespective of striking changes in the political climate, and the dramatic growth in the size and power of the environmental movement.

I explore both the internal culture and workings of the Corps and the larger context in which it operates, to examine how and under what circumstance the agency is able to make changes in the ways it operates and the types of projects that it produces. I begin with a short description of some of the key characteristics of the Corps to illuminate some of the ways that its origins and its institutional culture, as well as Congressional charges, place institutional constraints on the way that the agency operates. From there, the focus shifts to the context in which the Corps operates as one of the lead federal agencies for water resources development. Examining why the Corps has emerged as the de-facto agency for national water policy and whether the agency is equipped to articulate such an agenda.

From there, I undertake a detailed examination of how the Corps' network of divisions and districts¹⁵⁵ operates to produce a specific, uneven, political geography. I argue that the Corps' ability to selectively and unevenly resist top-down policy mandates reflects this geography. I show how Corps districts embed themselves in the local (and simultaneously, through Congressional representation, in the federal) political establishment, in ways that enable those districts with strong local connections to resist top-down efforts to change the way that the agency as a whole operates. At the same time, I suggest that the Corps as a whole is able to mitigate some of the potential negative effects of being seen as an agency that is easily and transparently politically manipulated through highlighting a decision making process that they present as highly rigorous,

¹⁵⁵ The Corps has divided the country into three divisions. Each division is headed by an Army General and oversees a number of districts. In the Lower Mississippi Valley for example, there are three Corps Districts, Memphis, Vicksburg and New Orleans that each report to the Mississippi Valley Division (which also happens to be located in Vicksburg).

scientific, and transparent. Through exploiting particular political geographies, and backstopping itself with claims of engineering rationality, I argue that the Corps' civil works program has been selectively able to resist both neoliberalism and mandates for more environmentally sustainable projects.

The Emergence of Corps: Internal Cultural and Political Constraints

From its creation, the civilian branch of the Corps has been embroiled in a political tension about the federal government's role in creating infrastructure for the benefit of interstate commerce. The Corps was created, initially informally, as a military agency in the 1770s, to build forts in the revolutionary war (Coordinating Committee, 2004). A permanent Corps of Engineers was organized in 1802, the same year that West Point was established (West Point would become the training ground for a large percentage of the Corps' leadership) (Coordinating Committee, 2004). The Corps remained strictly a military agency, until a civilian role began to emerge after the War of 1812 (Coordinating Committee, 2004). There was considerable Congressional opposition to a civilian branch of the Corps because, through the first decades of the 19th century, internal infrastructure improvements – road, canal, and navigation projects -- had traditionally been left to state and local jurisdictions to plan, fund, and implement.¹⁵⁶

A Supreme Court decision cleared the way for Corps involvement in river projects in 1824, however, ruling that it was a federal duty to prevent states from limiting interstate commerce by providing inadequate infrastructure (O'Neill, 2006). Congress

¹⁵⁶ Although, as O'Neill points out, the notion that rivers were public resources, rather than a commodity, managed by the federal government dates back to the late 18th century. She even suggests that the framers of the constitution sought to create a federal government strong enough to resolve interstate squabbles over river resources.

subsequently moved quickly to authorize the Corps to improve navigation. For example, in 1866, Congress directed the Corps to begin dredging, snagging, removing sunken vessels, and clearing overhanging trees on the Upper Mississippi River (Anfinson, 1993). Yet, as discussed in Chapter 3, the Corps' authority remained limited to navigation.¹⁵⁷ Although flood control was a widely recognized need – the Corps receiving Congressional authority to study it as early as the 1850s – politicians at the time felt that the commerce clause of the Constitution limited federal authority to aiding in the distribution of goods, not their production (O'Neill, 2006). Thus navigation was permissible but flood control, which would allow for the intensification of agriculture, was not.

As discussed in Chapter 3, the Great Flood of 1927 prompted Congress to revisit this position towards federal involvement in flood control, authorizing the Corps to control flooding on the Mississippi River in 1928. Both Congress and the Corps were reluctant to insert the federal government into the flood control arena. Congress because of concerns over the federal government taking on the fiscal liability, and the Corps because of the political implication of stepping into local government's role which was so well established in many parts of the country (O'Neill, 2006). Despite the enormity of the 1927 flood, and the resulting imperative for the region, this legislation was hotly debated and contested by legislators from parts of the country that did not stand to benefit from the project. In 1936, Congress further expanded the Corps' responsibility for flood control to include all rivers.

¹⁵⁷ See Chapter 2 for discussion of using navigation to support flood control objectives as well as Congressional authorization for the Mississippi River Commission to address flood control in 1896.

Culturally, the civilian branch of the Corps was also fraught with internal tension. In the early years of the Corps, intellectual leaders of the agency sparred over which engineering tradition the agency would follow. The French tradition, steeped in academic scholarship, planning intensive, focused on public goods, and favoring larger projects, won out over the more entrepreneurial, innovative, experience-based British model (Shallat, 1994). Much of this struggle took place in a series of well-documented intellectual disputes over how to improve navigation on the Lower Mississippi. These vignettes, which have become key events in the history of the agency, feature Eads – representing the British model (a self-made entrepreneur who earned his reputation for river work as a diver retrieving ship wrecks from the bottom of the Mississippi River – debating Humphries, a European trained engineer who conducted one of the first comprehensive surveys of the Mississippi from St. Louis to the Gulf. (Barry, 1997; Camillo, 2004). These two put forth conflicting ideas about how to maintain navigation and deepen the channels at the head of passes (where the Mississippi enters the Gulf of Mexico). While the agency ended up modeling itself on Humphrey’s biographic profile, Eads is still celebrated as the scrappy hero who succeeded in opening the mouth of the river on a shoestring budget, using innovative techniques questioned by the engineering establishment.¹⁵⁸

The tension between the weight of bureaucratic tradition and the agility of an entrepreneurial spirit continue to play out in today’s debates, at least in how the agency

¹⁵⁸ For the full story of the Eads - Humphries debates see Camillo, C. A. and M. T. Percy (2004). Upon Their Shoulders: A History of the Mississippi River Commission from its Inception Through the Advent of the Modern Mississippi River and Tributaries Project. Vicksburg, Mississippi, Mississippi River Commission or Barry, J. M. (1997). Rising tide : the great Mississippi flood of 1927 and how it changed America. New York, Simon & Schuster.

portrays itself as well as how it is understood by its key constituents. As Shallot explains, “The Corps, in the modern literature on water construction, remains Jekyll and Hyde: the catalyst of capitalism and a threat to the capitalist system, a bold innovator and a brake on the wheels of change” (Shallat, 1994). In short, the Corps is simultaneously viewed as a force for economic development pushing progress and making areas subject to flooding safe for capitalism and as a huge behemoth creating a bureaucratic drag on innovation.

These political and cultural tensions continue to express themselves. While the federal role in flood control is now well established, there is still contention over what circumstance should trigger Corps involvement in local flooding problems. For example, there has been concern in the water resources community that the Corps’ approach to assessing potential projects systematically discriminates against areas where poor people live, because of the agency’s use of current land value in its analysis of the benefits of federal involvement (Riley, 1994).

The Corps and National Water Resources Planning: External Constraints

The Corps, together with its sister agency the Bureau of Reclamation, is the agency leading water resources development at the national scale. The Corps has frequently drawn criticism as the wrong agency for this task, both because of its expertise and its culture. While there are good historical reasons the Corps that the agency’s authority was expanded to including issues like flood control – since the engineering agency was already taking the lead in harbor maintenance, there was logic in extending its scope inland to address flood control (often in accordance with navigation on the

inland river system) – persistent criticism of this choice have been circulating since at least the 1950s.¹⁵⁹

Indeed, the Corps possesses neither the authority nor the tools to articulate a national water resources development strategy. First, its primary and most robust expertise is in engineering rather than water resources planning or natural resources management, and thus has historically favored solutions to water resource issues that are engineering intensive. Second, the Corps is hampered by the limits of its Congressional authority. Congress gives the Corps both authority and funding on a project-by-project basis, the agency receives no discretionary funds. Thus, with all employees tied fiscally to individual projects, there is little latitude for the agency to take a regional (or national) approach to planning. Finally, as Chapter 3 describes, the agency’s mission and philosophy has evolved piece-by-piece, often in response to political crisis or natural disaster. Thus, the Corps’ projects do not reflect a consistent approach to water resources. Rather, as in the case of the Yazoo Pumps, projects are developed as place-based solutions to local- and regional-scale problems, and often conflict with principles that the Corps has articulated for the region (like using backwater areas for flood water storage).

The lack of current capacity for coherent water resources policy in the US periodically comes to light in the water resources literature as well as in the conservation

¹⁵⁹ Housing a water resource agency in the Department of Defense, rather than where natural resource professionals would oversee it, has a long been a concern. Indeed, the Corps has been through many reorganizations and mission adjustments in various congressional and executive branch efforts to ensure that it has the proper expertise and configuration to address water resource development and restoration issues. One recurring proposal, dating back to the Truman administration, proposes moving the civil works operations of the Corps to the Department of Interior. This would allow for closer coordination with US Fish and Wildlife Service and other agencies involved in reviewing civil works projects and ensure that natural resources were being managed appropriately.

community.¹⁶⁰ As Stakhiv (2003) explains, “[a]gencies in the U.S. cannot readily implement IWRM [integrated water resource management], because unlike [other countries], they lack the ability to propose, much less implement, top-down institutional changes as part of their water resources planning and design activities. Federal-agency-directed water resources solutions are essentially ‘plumbing patches’ to an outdated plumbing system.” Historically, beginning in the 1930s, a series of federal-level coordinating institutions worked to mediate disputes between different agencies and articulate national water resources policy, but met only limited and short-lived success.

¹⁶¹ While these bodies lacked the required funding and regulatory authority to create

¹⁶⁰ At this time, as the Obama Administration prepares to enter office, there are white papers circulating in the conservation community and transition teams proposing different solutions to this problem.

¹⁶¹ The first of these was the Water Resources Committee, a creature of the New Deal. The New Deal era is generally exalted in the water resources literature for the development of the Tennessee Valley Association (TVA) and the multi-purpose approach to water resources management that the TVA represents, as well as the low-tech approach to erosion control and other environmental problems popularized by the Civilian Conservation Corps. O’Neill (2006) critiques this general adulation suggesting that the New Deal was successful in promoting progressive approaches to water resource management only when opposition was weak. Using the 1936 Flood Control Act as an example, she suggests that while the Roosevelt administration sought to promote natural resource reform, they were successful only when opposing interests were not well organized or had limited political power. This Committee had some success in the Mississippi but had authority only to make recommendations to the President and, at the end of the Roosevelt administration, was terminated. Multi-purpose water resource planning continued through the creation of river basin commissions throughout the Truman administration beginning in 1945. These committees were composed of state and federal agency staff and geared towards improved communications, but had no staff or regulatory authority Featherstone, J. P. (1996). *Water Resources Coordination and Planning at the Federal Level: The Need For Integration*. Journal of Contemporary Water Resources and Education, Universities Council on Water Resources..

Comprehensive water resource planning was revived again with passage of the Water Resources Planning Act of 1965, which established watershed level planning groups, known as river basin commissions, as well as a national-level Water Resources Council (WRC), and provided funding for states to strengthen water resource planning. The WRC brought together cabinet level officers as well as heads of independent agencies with some jurisdiction over water resource development.

The WRC was tasked with designing the planning structure for the agencies that implemented water resource projects; coordinating and guiding federal; state and local water resources planning; developing and refining principles and standards used by the Corps and others for project planning; conducting resources assessment; and coordinating, reviewing and evaluating agency water plans. While the WRC was not well liked by the Corps, which saw the institution as an attempt to limit its power, it provided the most coherent approach to date to water resources planning and coordination on individual projects.

effective and coherent national policy, they did serve to resolve conflicts between the federal agencies and to signal a direction in water policy. In the absence of such coordinating entity, since the 1980s when the Reagan administration dismantled the Water Resources Council (WRC), the Corps has emerged as the de-facto agency for national water policy. The designation creates a difficult bind for an agency that has neither the expertise nor the culture to operate as a national water resources planner.

One can imagine situations in which a functioning WRC, even given its persistent lack of capacity, could have been helpful to the agencies involved in the Yazoo Pumps project. For example, the WRC could have served as a forum for the US Fish and Wildlife Service (FWS) to bring to light the ways that the Yazoo Pumps project was promoting agricultural intensification in wetlands areas, after the 1985 Farm Bill shifted federal agricultural policy towards reducing surplus production and ending wetlands conversion to row crop agriculture. With a coordinating body designed to resolve a conflict like this, one can imagine that the Yazoo Pumps may have been redesigned to address infrastructure needs in the Delta and garnered support from FWS.

In the late 1960s and early 1970s, Congress created seven River Basin Commissions, replacing New Deal Era coordinating committees, to provide a regionally cohesive approach to water resources development.¹⁶¹ Each commission, which had both federal and state members, had administrative offices with a core staff of between 20 and 30 employees and funding from the federal budget. The commissions were charged with coordination of federal, state, interstate, local, and private plans for each basin. However, Congress placed limits on the extent of the commissions' activities, granting authority only to activities involving coordination and planning, not to regulation, development or management. While these commissions produced important studies, lacking regulatory or management authority they were unable to become effective coordinators of water resources policy and were often ignored by federal and state agencies Featherstone, J. P. (1996). *Water Resources Coordination and Planning at the Federal Level: The Need For Integration*. Journal of Contemporary Water Resources and Education, Universities Council on Water Resources..

Thus, despite the WRC's success in providing some national framework for water resource development, it was difficult to implement this at the basin level because of lack of authority. Even at its most robust, water resources planning and coordination in the US has never been strong.

The Corps and the Periphery: The Political Geography of Water Projects

Environmentalists, taxpayer groups and others frequently criticize the Corps for its special relationship with Congress. The perception among these groups is that the Corps is used by Congress to curry favor with constituents, by bringing large and presumably lucrative projects to their districts (Grunwald, *An Agency of Unchecked Clout*, 2000). The agency is also perceived as a versatile agency that serves Congress by moving quickly to address a wide range of needs (Grunwald, *Working to Please Hill Commanders*, 2000). The Corps benefits from its tight relationship with Congress, continuing to receive large appropriations even as it has lost favor with the executive branch since the mid 1990s. Indeed, scholars have lamented that water resource policy is more like transportation policy, with the largest projects going to those with the most powerful Congressional delegations, than like general welfare policy, through which the benefits are distributed to those with the greatest needs (Philippi, 1994).

This cozy relationship with Congress has several important implications. The Corps mission, which currently states that navigation, flood control, and environmental protection are co-equal objectives, does not limit Congress' ability to direct the agency to take on projects that lie outside these areas of responsibility. Specifically, the Corps has a history of addressing issues like water supply and waste-water treatment, traditionally the province of local government, which became federalized (in a limited geography) when a Corps project addressing these issues was authorized and funded. Predictably, these projects often take place in the home states or districts of the senior members of the Corps's authorizing committee or its appropriation subcommittee. As one senior civilian in the Corps explained to me, "[w]e serve Congress and the local jurisdiction. Congress

understands the agency's strengths and sometimes will call upon the agency to step into a situation to address a persistent problem, like waste-water treatment. This is not unusual." (Interview with Corps Personnel #3)

Others have pointed out how the Corps has been used as a vehicle to implement special interest projects through powerful Congressional representation. Maas (1951), in one of the best-known books devoted to the Corps, painstakingly cites many examples of the Corps acting as an instrument for special interest groups involved in flood control or waterborne commerce; in which the processes to ensure that projects serve the public have been undermined to ensure that projects serve the powerful. Ultimately, Maas concludes that together the Corps and the Congress have yielded much of their power to these private, special interest groups.

O'Neill (2006) suggests that the history of flood control (and flood plain development) in the U.S. points to a possible explanation for how the Corps developed a nationwide network of special interests that (through the vehicle of Congress) turn to the agency to support their regions. Specifically, she suggests that because flood control was initially the responsibility of local government, a series of local institutions that replicated the local power structure were developed organically wherever flooding was an issue. Hence, when flood control was federalized, first in the Mississippi Valley in 1928 and then nationwide in 1936, the Corps had to work closely with local contractors, levee districts, counties and other units of government to construct and maintain what would become a system of levees, spillways, dikes and weirs that reduced flooding. This process was the vehicle for articulation of the central government with local and state

government institutions, and importantly, with a certain class of special interests, the property and business owners who stood to benefit from the reduced risk of flooding. In the Yazoo Delta the Corps worked with two levee districts. As discussed in Chapter III, these institutions were always well integrated in the regional, racially charged power structure and powerful cotton growers and those that supported the farm infrastructure (farm implement dealers, fertilizer contractors, etc) took turns serving on the board.

O'Neill (2006) suggests that the Corps flood control program was what George Steinmetz calls a "structure-changing policy," one that changes the way subsequent policies are produced by altering the perceived boundaries between the modern state and society. Specifically, she argues that federal responsibility for flood control redefined the relationship between government and the land owning class by creating a political duty for government to assist an elite class of landowners. Because this is accomplished through duty rather than through eminent domain or other mechanisms that more visibly bring the hand of the federal government into a region, government is able to ensure and increase land values while giving the impression that it was merely defending some morally prior landowner right to property that is ready for productive use. In the Yazoo Delta, this process brought the federal government into the region in a way that opened up channels of communication and suggested that federalization was a viable way to solve problems in the local economy.¹⁶² As shown in the previous chapter, the relationship between the federal government and the local power structure, whether through one of the levee boards or the Delta Council, is still very strong in this region.

¹⁶² As mentioned in Chapter II, after the Civil War, planters and other power brokers in the South were reluctant to turn to the federal government for help because they did not want to invite federal attention to the racially based labor system. This changed dramatically after the 1927 flood.

Similar processes played out in other parts of the country. In each location, the Corps received Congressional direction to address local problems, and developed a close relationship with the constituencies to be served in that place. Cumulatively, this process has created a federal agency in which local units are very unevenly connected with the central source of authority and funding: Congress. This geographic unevenness has important implications for understanding the agency because Corps districts, and division offices, can be quite different from one another; culturally, politically, and in terms of the practices deployed.

This uneven political development leads to a situation in which the agency has conflicting tendencies in regard to centralization. On the one hand, as a military-led agency, the Corps' military style hierarchy plays an important role in creating uniformity and disseminating policy from headquarters to the divisions and districts. At the same time, as described above, because of the required articulation with local interests, and the Corps' large civilian work force (98% civilian)¹⁶³, there is a strong tendency for each district to develop its own connections with local constituencies, which are in turn strongly connected to the region's Congressional delegations. These countervailing tendencies create interesting juxtapositions. For example, in 2003, in response to a series of scathing articles in *The Washington Post* about environmentally damaging Corps projects, headquarters wanted to show the congressional committees that oversee the agency that it is indeed involved in environmentally-oriented watershed projects. A call

¹⁶³ It is worth noting that the Corps, while it is a Department of Defense Agency and each district and division has a military leader, the work force is predominantly civilian. Currently there are approximately 650 career military employees while the civilian work force is 34,600 (Engineers, C. o. (2008). "US Army Corps of Engineers: Who We Are." Retrieved September 25, 2008.

went out to local districts and a short report was produced. Among the projects highlighted were efforts to restore salmon runs in the Northwest, remove dams in the Midwest, and the Yazoo Pumps project in the Mississippi Delta (Corps, 2003). While it is hard to imagine the filter that Corps headquarters used to compile this list, the memo (which may or may not have made it out of headquarters) does represent the true diversity of approaches found in the different districts.

Science and the Public Interest

While the Corps's political geography may be derived from its connections with powerful local and regional constituencies that are turned to Congress, this power structure is neither displayed nor overtly acknowledged by the agency. Indeed, agency personnel see their work as completely apolitical. In their descriptions, the Corps is a consistent servant of Congress and the public interest. As one senior manager in the Mississippi Valley Division explained: “[t]he Corps serves Congress and the local sponsor. We don't seek projects, they are brought to us from one of those two places. We are engineers ready to address the needs identified by the public or Congress. Our job is to ensure that the projects are in the public interest, through rigorous cost-benefit analysis, and to carry them out” (Interview with Corps employee, #4).

The environmental community, as well as other agencies that work closely with the Corps, dispute this assertion. They see the Corps as an active agent in pursuit of its own self-interest: maintaining the existence of the agency through working on congressional authorizations for projects. For example, one USGS employee explained, “I would have the Corps people on the phone all the time asking, do you have any

projects we can pursue? They were always looking for projects because if the projects ran out, so did their jobs” (Interview with USGS employee #14). This issue is particularly relevant to the Corps’ budget. Unlike other agencies with an environmental mission, the Corps is completely project driven, with no general appropriations to support staff. Thus, in order for the Corps to continue to exist, Congress must continually authorize projects that Corps staff can be involved in. Thus the agency is consistently put in a position of keeping projects active, even those that come under public scrutiny, in order to maintain staff and resources.

This drive to keep projects alive is considered by environmentalists and others to have been a very important force in the Yazoo Pumps Project. Indeed, since cost sharing for the project was waived in the 2000 WRDA, the project is contingent only on federal appropriations, not on the ability of a local entity to raise additional funds. As one Corps official explained to the local newspaper, “while new projects must be costs shared with a local sponsor, the corps had a tendency to guard projects like the Yazoo that have full federal funding. Whenever they went for a project they clutched it like a mother lion with her cubs,” (Huffman, 1989).

The Corps’ scrupulous focus on engineering, science and quantitative analysis enables it to pursue a political agenda that is constantly sanitized by its own rhetoric and actions. Shallat (1994) addresses the paths through which this dispassionate engineering culture becomes political. He suggests that expert knowledge, the control of information, and the agency’s role in implementing government programs, allows the agency to wield political power, even while appearing apolitical. Indeed, he argues that this type of

power is itself derived from the agency's apolitical status: "...preaching unity through science, industry, and modernization, the Corps braided the patchwork of dissimilar interests into a nationwide network of power" (p. 45).

It is the tension between the Corps' deeply imbedded connections with local interests including local Congressional delegations, and the agency's impartial science-based outlook that makes the Corps so interesting as an organization, and I would argue so successful despite being so widely distained. Its apolitical public self-identity allows it to shift in and out of policy debates at key moments, by using scientific reasoning (often quantified) in the "public interest" to advocate for the agency's interests.¹⁶⁴ The Corps produces the science, through numerical claims, and then allows the other groups, the local sponsors and beneficiaries, to use the numbers to make the social and cultural value claims that follow from the science.

The central analytical lens for any Corps project is the benefit-cost (b-c) ratio, an accounting of the total cost of the project versus the expected benefits, both current and as projected over time.¹⁶⁵ The Corps' job is to calculate b-c ratios and make other predictions that assess a project's viability and ultimate economic benefits. The Yazoo Pumps offers interesting illustration of this process. For example, in the 2000 Draft

¹⁶⁴ This is similar to how Bruno Latour describes Pasteur "shifting out" to allow the yeast to do its work in *Pandora's Hope* (Latour, B. (1999). *Pandora's Hope: Essays on the Reality of Science Studies*. Cambridge, Massachusetts, Harvard University Press.)

¹⁶⁵ The way that the b-c ratio is calculated has changed significantly over time, as the Army (the Principles and Standard that define the b-c ratio are developed by the Assistant Secretary of the Army, not the Corps itself) has expanded and reduced the parameters involved in order to comply with shifting directives from Congress and President. The b-c ratio is calculated according to the benefits in separate "accounts." Currently, there are two accounts, National Economic Development and Environment. In the 1960s, however, there were two additional accounts to try to capture the regional economic benefits of projects as well as the effects of projects on regional income distribution. These were scrapped in 1972 because the Nixon Administration felt that the additional information was not useful in project evaluation (Interview with Agricultural Economist #40).

Environmental Impact Statement (EIS) for the project, the Corps, for the first time in the long history of the project, asserted that some of the project benefits would come from providing urban flood control (Corps, 2000) for the cities of the Lower Delta. In total, few if any of the benefits comprising the 1.48 to 1 b-c ration were derived from this. Yet, as discussed in Chapter IV, the resulting debate focused largely on the possibility of the Pumps project providing benefits to poor communities. With images of snakes on porches and kids using boats to get to school, South Delta Citizens for Flood Control was able to effectively switch the tenor of the debate away from agricultural flood control (or agricultural intensification as the environmental community characterized it) to economic equity and social justice. As one former Corps employee explained, “[t]he Corps brought that turn in the debate on itself by making the claims for urban flood control. They were worried about declining b-c ratios and went after every possible benefit, even though the urban implications of the project are really small” (Interview with former Corps Employee #20). Thus the Corps, in producing its scientific b-c ratio, steered the direction of the debate that was later carried out by projects advocates and eventually the region’s Congressional delegation (recall from Chapter IV that Mississippi Senator Trent Lott took up the mantel of urban flood project on the Senate floor).

This same process can play out without the help of the local sponsor and other supporting constituencies. For example, in 1988, when the Corps, the Levee Board, and Delta Council were all actively pursuing alternatives to allow the Project to proceed under the new cost sharing rules, a Corps spokesman addressed a dispute that arose over the b-c ratio that the Corps had calculated for the project. A former Corps employee and

an outside accountant both had suggested that the Corps was over-estimating the anticipated increase in crop yields associated with the pumping plant (Huffman, 1988). In response, the Corps' representative shifted the debate away from the numbers and towards the social and cultural benefits of the project, explaining, "[t]he ballgame is not arguing economics...Determining benefits is not an exact science, but we've got such a high benefit costs ratio we could be off by 50 percent and it wouldn't matter" (Huffman, 1988). The representative went on to explain that the project would make the area eligible for federal flood insurance, "which would mean that they could get federal mortgages and industry could come into the delta...The basic argument is whether the Delta is going to continue to be an area that is depressed, predominantly dependant on agriculture products, ravaged by floods, or have 100-year security (from current flood heights). That's the bottom line" (Huffman, 1988). For a self-professed apolitical agency this is indeed a strong statement.

Thus, administrative characteristics of the Corps (such as budgetary constraints) create incentives for the agency to operate it is own self-interest, holding on to projects that, under other circumstance might have been deauthorized. At the same time, the bureaucracy's unevenly political geography and its ability to access and deny the power of that geography, create opportunities for the agency to embrace and resist mandated change. The next portion of the chapter examines two of the most major changes to see how the agency has addressed them.

Change and the Corps, Can Bureaucracies Change?

Shortly after the Corps began to address flood control, using levees and channel modifications and other techniques that cut the floodplain off from the river, the agency began to hear criticism for using structural and engineering solutions rather than alternative approaches aimed at flood damage reduction.¹⁶⁶ Indeed, alternative views of flood control emerged in the early twentieth century, arguing for changing the patterns of human occupancy of floodplains and coastal areas (White, 1945). As early as 1938, Congress authorized the Chief of Engineers to propose non-structural projects, like floodplain evacuation, as a strategy for flood risk management. Indeed, a close examination of Corps projects from the 1930s and 1940s shows that the Corps was incorporating some such non-structural ideas. Yet, for a variety of cultural reasons, these approaches have never become central to the Corps' approach to flood control projects. Until relatively recently, the Corps has emphasized flood risk minimization through water control projects, with other agencies (e.g., the Federal Emergency Management Agency) implementing programs related to human occupancy of floodplains (Coordinating Committee, 2004).

Notwithstanding early experiments with non-structural approaches, the Corps' engagement with the modern environmental movement can be traced to the passage of the National Environmental Policy Act (NEPA)¹⁶⁷ in 1969. After NEPA, all the federal agencies had to adjust to working within the context of Environmental Impact Statements (EIS). In one of its first efforts to adjust to the new environment, the Corps assembled

¹⁶⁶ Most of these are land intensive solutions like floodplain and wetlands restoration, but they also include flood proofing and other techniques design to limit the economic damages of flooding.

¹⁶⁷ The basic requirement of NEAP are spelled out in Chapter III,

an Environmental Advisory Council composed of representatives of leading environmental and conservation organizations, including National Wildlife Federation, Environmental Defense Fund, Sierra Club and others. Over a period of a year, this group met together to assist the agency in developing a process to comply with NEPA (Ruess, 1983).¹⁶⁸

Initially, The Corps received high marks for its realignment to meet the NEPA requirement, largely because the agency's military structure allowed it to respond quickly to such changes in direction. Indeed, a Brookings Institution study in the 1970s suggests that that Corps was successful in adding the biologically oriented personnel and modifying their procedures to better address environmental sustainability in their projects (Mazmanian and Clarke, 1979). The study authors lauded the Corps, as a bureaucracy that was able to move surprisingly quickly, given its size, to address changing priorities and interests.

Yet, despite the changes in the personnel and the documentation of environmental effect required by the EIS, environmental interests continued to be highly critical of the Corps. Throughout the 1970s and early 1980s, environmentalists argued that Corps projects changed little despite a strict and well-executed adherence to the procedural administration requirements associated with the NEPA, which critics considered "green window dressing" (Coordinating Committee, 2004). Thus environmental interests took a new tactic. Throughout this time, WRC battles over the economic value and environmental harm associated with specific projects had kept the Congress from passing

¹⁶⁸ This kind of close coordination between the Corps and the major environmental groups is now common throughout all levels of the Corps hierarchy.

a Water Resources and Development Act (WRDA), the vehicle through which Corps projects are authorized. Immediately after entering office in 1977, President Carter weighed into this controversy, releasing a “hit list” of 19 water projects that the administration considered unnecessary or environmentally damaging,¹⁶⁹ a move that put the new administration immediately at odds with the powerful interests in Congress who had fought hard to bring these projects to their constituencies. The Yazoo Pumps was among those targets for deauthorization. The resulting deadlock over water resources issues persisted throughout President Carter’s term and he left office without any agreement on how to reform water resources policy.

The Reagan administration picked up where President Carter left off, also refusing to support a WRDA bill that did not force changes on how the Corps planned and implemented projects. President Reagan’s concerns were focused primarily on fiscal reform rather than environment, however. In 1982, Congress took action to resolve the dispute on water resources policy, eliminating funding for the WRC and officially disbanding the seven active River Basin Commissions.¹⁷⁰ While a Cabinet Council of Natural Resources and Environment was established to officially continue the coordinating duties of the WRC, it had neither authority nor a meaningful budget, marking the end of the federal experiment in coordinated water resources planning. The Office of Management and Budget took over the review of water projects and continues to provide oversight to the Corps and Bureau of Reclamation in reviewing the benefit-cost ratio of individual projects. This move, from an interagency body with tremendous

¹⁶⁹ The environmental community is widely considered to be behind Carter’s move to change the way the Corps operated and to eliminate the worst projects.

¹⁷⁰ Some Commissions were later reinstated through separate authorizing legislation.

water resources expertise to an agency largely focused on budget review, further reduced the federal government's ability to articulate any broad-scale water resources policy.

It was only in 1986, more than ten years after the last WRDA bill, that the interests of environmentalists and fiscal conservatives came together and a new WRDA was passed. As previously discussed, 1986 WRDA required local cost sharing for all Corps projects, with the notable exception of those on the mainstem of the Lower Mississippi River. Before WRDA 1986, all projects were paid for exclusively by the federal government, although required lands and rights of way were provided by a local sponsor. With WRDA 1986, local partners had to fund 35-50% of the construction budget, depending on the specific authorities of the program, in addition to lands, easements and rights of way. Environmentalists, believing that sharing the fiscal burden would reduce locals' enthusiasm for large-scale environmentally destructive civil works projects, welcomed this move.

While no studies on the subject have been completed, it seems that cost-sharing was an effective mechanism to curb the development of Corps civil works projects.¹⁷¹ In the case of the Yazoo Pumps Project, however, imposing cost sharing was just a temporary set back. After exploring a variety of administrative remedies to exempt the project from cost sharing (including a remedy allowing extremely poor communities to apply for a waiver from cost sharing), the Mississippi Congressional delegation eventually removed the cost-sharing requirement for the Yazoo Pumps project through

¹⁷¹ It is important to recognize that cost sharing also coincides with the end of what Reisner, M. (1993). Cadillac desert : the American West and its disappearing water. New York, N.Y., U.S.A., Penguin Books. calls the "Go-go years" for dam building and other civil works projects. Thus the Corps in some sense did run low on potential projects.

the WRDA legislation of 1996. In the case of the Yazoo Pumps project, then, localized political geographies again trumped national and programmatic approaches aimed at changing the Corps' disposition towards the environment (and fiscal responsibility).

Shortly after cost sharing was established, Congress began to modify the Corps' legislative authority to include environmentally-oriented projects. This started with a small program, known as Section 1135 (of the WRDA), which was designed to allow the Corps to modify its own projects to address environmental problems and provide for fish and wildlife enhancements. Although authorized to receive only \$25 million yearly, this was an important first step in creating statutory authority for the Corps to pursue stand alone environmental projects as well as incorporate environmentally sustainable features into traditional projects. This program falls into a category called Continuing Authority Programs, a collection of relatively small programs operated by the Corps without specific Congressional authorization. This was designed to provide the Corps with the flexibility to bring forward such projects as they are identified locally and cost-sharing dollars became available.¹⁷² The 1135 program quickly became another tool for Congress to direct appropriations, however, and is now routinely over-obligated through Congressional mini-earmarks directing its pool of funds to specific projects. This further underscores how the political geography of the Corps limits its ability to develop internal priorities for environmental restoration.

¹⁷² Because this program was seen as undoing the Corps past mistakes, cost sharing was set at 75-25, by far the most favorable ratio available in the agency.

Since the 1135 program was authorized, numerous authorities have been created, some of which are geographically specific,¹⁷³ to direct the Corps to address environmental restoration. Culminating in the 1996 WRDA, when Congress added environmental protection to the Corps' central mission putting environmental interest on par with flood control and navigation.

Predictably, the Corps' response to these environmental mandates has been uneven. In my interviews with staff members from the FWS, US Geological Survey, and NGOs who coordinate closely with the Corps, I found significant variation in responses to the question of how well the agency is responding to environmental concerns. In some locations, Corps districts are very responsive to environmentalists' calls for more alternative flood control approaches, but in others they are completely unresponsive. The Lower Mississippi, specifically the Vicksburg District responsible for the Yazoo Pumps project, has a reputation among other agencies as well as environmentalists for being particularly unresponsive. As a FWS employee (Interview #7) working in Mississippi explained:

“Even in pacific salmonoid issues...the Corps at least gave the appearance of fully coordinating with all sides...and did not openly show partisanship towards one side, up there it would be shipping and agricultural and irrigation interests like they do down here towards agriculture and flood control interests. It is as blatant as it could possibly be...The Yazoo pumps would not fly anywhere else in the country...I see a disparity...between the Vicksburg districts and all the other districts. The 1993 flood did change the way things works in some places, non-structural flood damage reduction strategies were developed and implemented in other places, but not here.”

¹⁷³ The most well known of these is the Everglades restoration known as the Comprehensive Everglades Restoration Plan (CERP), but similar authorities have been developed for the Great Lakes, Upper Mississippi, Pacific Northwest and other areas. The CERP however remains the most well funded.

A well-known national environmentalist explained it this way, “There is no other district in the United States [referring to the Vicksburg District] that is so insistent on relying on early-20th century flood control systems” (Reid, 1997 p. 1B). Another FWS employee explained it this way, “I love working with the folks in the Memphis District. We go up there for regular meetings, sit together in a big conference room and talk about how they can modify on-going management activities to improve fish habitat. They are so receptive. Vicksburg is entirely another story” (Interview with Fish and Wildlife Service employee, #52). Not surprisingly, the district least compatible with environmental programs also happens to be the very closely tied with its Congressional delegation and with local economic interests (Grunwald, Working to Please Hill Commanders, 2000).

The formalization of the Corps’ environment mission in 1996 brought significant attention from the environmental community and created the potential for the Corps to develop and answer to a new constituency, the environmentalists. Because change comes slowly to bureaucracies in general, and even more so to the Corps (the results of the Brooking study in the early 1970s, notwithstanding), it is still difficult to judge the impact of this change on the agency. What is clear, is that this new constituency, the environmental community, is taking this engagement with the Corps seriously.

This engagement has been demonstrated in two important ways. One group of environmental organizations, including American Rivers and the National Wildlife Federation, Sierra Club, and at times Environmental Defense Fund (EDF) have formed the Corps Reform Network (CRN) to be a “watch dog” for the Corps. CRN uses the

traditional tools of environmental advocacy to monitor Corps wetlands permits (the Corps administers Section 404 of the Clean Water Act, which regulates dredging and filling of wetlands), oppose Corps civil works projects, and question the viability of Corps restoration efforts. Funded by private foundations, CRN has been outspoken in opposition to the Yazoo Pumps and several other projects. The CRN, which has placed an emphasis on requiring more review of water resources projects, made significant gains in WRDA 2007 by including language that will require that Corps' project be submitted to outside review before Congress funds them.

A second group of organizations, while still critical of the specific projects and of the Corps' execution of its regulatory authority began to focus on the Corps as a potential source of restoration dollars and, in some cases, as a potential partner. This group, comprised of environmental organizations that are more engaged in land management and restoration, have formed working relationships with the Corps, signing Memoranda of Agreement to work together.¹⁷⁴ A significant barrier to such engagement was eliminated in 1996, when local and national environmental groups sought and received Congressional authority to become a local partner with the Corps in Section 1135 and other restoration projects.

Few on-the-ground projects have materialized to date, but these efforts may hold promise for future restoration opportunities. Currently, some would-be partners find the Corps' strict guidelines and inflexible standards difficult to work with. As one FWS employee (Interview #18) explained:

¹⁷⁴ It is important to note that there is significant cross over between these groups with one program at EDF working with the Corps and another program litigating against the Corps.

“in order to take advantage of their restoration programs, the project must conform to all the Corps’ standards and guidelines. We have a small restoration project here, we want to build a weir to hold the water in the river for the fish at low water, it should probably cost about \$200,000. But by the time the Corps got through with it, it was a \$1 million dollar project, built to their standards. Even with the 75% cost sharing, we cannot afford to participate in the project, particularly given how long it might take and that they want the money up front.”

While it may take more time for the Corps and their potential partners to learn to work together, efforts thus far demonstrate that some Corps staff are seeking opportunities to connect with conservation and environmental interests and see avenues for productive involvement. There is reason to expect, however, that these efforts will replicate the uneven geographies noted above: Environmentalists will work with receptive local districts, likely steering clear of Vicksburg.

Thus while Congress has directed the Corps to place a high priority on environmental concerns and the environmental community is anxious to help the agency move in that direction (whether through opposition or through partnership), the political geography of the agency will likely continue to mediate the agency’s ability to embrace its environmental mission.

Neoliberalization of the Corps?

Recent geographic scholarship has paid significant attention to the effect of neoliberalism on environmental regulation (Holifield, 2004; Mansfield, 2004; McCarthy, 2004; Prudham, 2004). In particular, Robinson (2004a; 2004b; 2006) has examined the Corps and its role in establishing a market for wetlands mitigation through the mechanism of mitigation banking. His work persuasively points to possible frictions between the quantification required for a market in ecosystem services and the challenges

that ecosystem scientists face in creating holistic (and meaningful) measures for ecosystem function that are abstract enough to lubricate a market (Robertson, 2004b; Robertson, 2006). This research has focused on environmental regulation, however, with no attention to the Corps' (or other agencies') civil works projects or the course of neoliberalization in those parts of the agency.

My research indicates that there are significant and distinct institutional barriers to the implementation of neoliberal practices in the civil works program of the Corps. The wetlands regulatory program is administered from the national level, albeit through the same districts that provide the structure for the civil works program. Corps districts do interpret wetlands regulations differently, with each district having some discretion to choose from a menu of options for allowable mechanisms for mitigation.¹⁷⁵ Nevertheless, Congress is kept at arms length from the wetlands regulatory program, meaning that opportunities for special interests to intervene are not important to the character of this program.

The civil works program, with unevenly powerful districts that can be very responsive to Congress and special interests, has at least selectively resisted attempts to implement neoliberal practices. The 1986 WRDA incorporated one classic neoliberal characteristic, changing the way that projects are financed, requiring those who will benefit most directly from a given project to make a financial contribution towards its

¹⁷⁵ While mitigation banking is widely used, other mechanisms for wetlands mitigation, such as in-lieu fee programs, are only used in some districts. The type of wetland requirement mitigation is a key factor for regulatory personnel in determining appropriate mitigation. For palustrine emergent wetlands, which are relatively easy to restore and widely spread geographically, districts and permittees have more options for mitigation. In the case of bogs, fens, or other relatively rare wetland types where restoration opportunities are more limited, mitigation is also constrained.

construction. Yet, as noted above, this new cost sharing legislation exempted all work on the mainstem levees of the Mississippi River. This exemption was rationalized using the same logic that brought the Corps into flood control in 1928: the water moving through the lower Mississippi River comes from nearly 1/3 of the country, not just the surrounding states. It was deemed unreasonable to expect the people of the lower Mississippi to cover costs of flood protection when the water comes from so many other places. While the mainline levees are the only *programmatic* exemption from cost sharing, at least one other project, because of the specifics of their authorization, was not subject to cost sharing: the Yazoo Pumps Project.¹⁷⁶ As mentioned, in the case of the pumps project, Congress waived cost sharing in the 1996 WRDA bill, with language that was carefully crafted to apply only to that project.

Further, the regulatory program, for the most part, operates on a limited time scale. When a permit application is submitted, the Corps has a limited amount of time to respond to it and the resulting decision, while it may be litigated, is considered final. The civil works program, on the other hand, does not impose any limits on the life of a project (built or not). As I have noted elsewhere, the Yazoo Pumps Project was developed in keeping with the engineering and environmental norms of the 1940s, not the 21st century. Yet it remains authorized, which means both that it is still eligible to be built, and that the parameters of the project continue to be governed by the 1941 Flood Control Act. Even if the Vicksburg District suddenly decided that it wanted to pursue an entirely non-structural approach to flood control in the backwater region, it would be

¹⁷⁶ Interviewee referred me to other projects since 1986 that have not required cost sharing, but I have been unable to verify this.

limited to the approaches (levee, pumps, etc) and total acres of land acquisition and mitigation detailed in the 1941 authorization.¹⁷⁷ Thus, the structure of the civil works program aimed at transforming nature does not seem to offer the same opportunities for adopting neoliberal ideas and practices as the wetlands regulatory program, even though both are housed in the same location.

Neoliberal rhetoric and practice are making their way into the Corps civil works program, although they are different from those in the regulatory program. For example, the Corps has launched a program known as “Help for Others.” This is an effort to reduce the cost of maintaining high-level expertise in government by making Corps expertise in hydrologic engineering available, on a contractual basis, to both other federal agencies and the private sector. “We realize that the Corps has incredible skills that we believe others can benefit from,” (Interview with Corps employee, #4) explained a high level civilian official in the Mississippi Valley Division. (To date, there is no evidence that either other federal agencies or the private sector have taken up this opportunity.)

Further, like the rest of the federal government, the Corps has been asked by the Office of Management and Budget (OMB) and by Congress to more rigorously quantify outcomes in order to measure progress towards its goals.¹⁷⁸ For many agencies, OMB’s exhaustive and heavily technocratic process for evaluating each budget line item has been a difficult adjustment, as staff was not used to justifying programs to the level now

¹⁷⁷ The freezing in time of project authorizations can also be helpful to those seeking alternative approaches to flood control. In the 1990s, I worked for an organization that was advocating for a non-structural approach on the Napa River in California. A progressive district engineer wanted to look at other options but felt stuck without authorization for floodplain restoration. Combing through the 1950s authorization, Corps staff found that Congress had written additional land acquisition into the legislation authority; authority that could be used, with creative thinking, for wetlands/floodplain restoration.

¹⁷⁸ With the dismantling of the WRC in 1982, OMB took over the duties of reviewing the cost effectiveness of water resources projects for both the Corps and the Bureau of Reclamation.

required. While the Corps also struggles with this process, it is important to take into account how the Corps' institutional culture coincides with many of these requirements before concluding this neoliberalization has altered its culture or practices.

Indeed, results orientation and focus on quantification often associated with neoliberalism is already present in the institutional culture of the Corps. While many social scientists generally view technocracy and the professional state as a 20th century concept, scientific professionalism dates back much further in government engineering. Thus Shallat (1994) points out that the rise of scientific professionalism has been a long term process, with standardization, cost benefit equations and other technocratic processes dating to the antebellum era when the professional state emerged in response to the chaos of stalled public works projects.

Thus it would seem that neoliberalization has been much shallower on the civil works side of the agency than on the regulatory side. My initial research suggests that where funding and project priorities are more closely tied to the political geography of the agency, neoliberalism is less entrenched. The question thus emerges of whether the processes associated with transformation of nature are themselves less prone to neoliberalization than those associated with regulation. It would be interesting to explore this process more deeply, perhaps through comparative study of different agencies involved in transforming nature.

Conclusion

The Corps has been challenged by new priorities whether related to its environmental protection mission or to fiscal responsibility and entrepreneurialism

associated with neoliberalism. Both its own internal culture and practices and the larger context of water resources policy allow at least parts of the agency to resist national policy directive in favor of continuing to serve powerful local constituencies. This observation is strongly consistent with the understanding that I developed of the Yazoo Pumps project.

In the case of the pumps, a locally-driven solution to the difficult political and hydrologic problem of how to protect both sides of the river equally, became embedded in the local, and by extension federal, political fabric of the Yazoo Delta. The Vicksburg District, which is known to have relatively strong ties to a very strong Congressional delegation, focused on serving its local constituency, rather than responding to calls for a more environmentally sensitive approach to flood protection. Without a formal body, like the WRC, to resolve disputes between federal agencies about local projects, the project lingered unresolved for more than 60 years. By the time it reemerged, the political mores had changed so much; even a very powerful Congressional delegation was hard pressed to save the project from an EPA veto.

Conclusion

On August 31, 2008, the US Environmental Protection Agency (EPA) vetoed the Yazoo Pumps Project, for only the 12th time using the power it was given during under the authority of 1972 Clean Water Act to reject projects that have unacceptable adverse effects on water supply, wildlife or fisheries resources.¹⁷⁹ While advocates for the project continue to promise a legal challenge to have the project reinstated, it appears that this chapter of the Project's history has come to a close.

The regional conflict over the future of agriculture and natural resources restoration in the Delta continues, however. Throughout 2008, a new debate roared through the region; a controversy over where to place a federally-financed visitors' center associated with the US Fish and Wildlife Service's National Wildlife Refuges in the region. In 2004, Congress had authorized creation of the Teddy Roosevelt Refuge Complex, a new administrative unit of the National Wildlife Refuge System, as well as the Holt Collier National Wildlife Refuge. Both refuges commemorate an important moment in regional history: the visit of President Theodore Roosevelt to hunt bear. He was led on the hunt by the African American guide Holt Collier, who was born a slave in Mississippi, fought for the confederacy in the Civil War and became a legendary bear hunter and sportsperson. It was in the Yazoo Delta that Roosevelt famously refused to shoot the bear that Collier had rounded up and tethered to a tree for him, because he considered it poor sportspersonship. In that moment, the Teddy Bear was born. The Hold Collier Refuge is the first in the National Wildlife Refuge System to be named after

¹⁷⁹ Environmentalists are quick to point out that the Pumps would have removed jurisdictional protection from more acres of wetlands than were at issue in all eleven previous vetoes combined.

an African American, and has been cast by the FWS as a tribute to African Americans in the region.

In 2006, Congress authorized the Army Corps of Engineers (Corps) to construct a visitors' center for the refuges in the Lower Yazoo Delta, once again pitting agricultural interests against advocates for natural resource restoration. This debate again featured the Delta Council, this time working with the Sharkey County Board, to catalyze a county resolution stating that the visitors' center should not be placed on land that would be served by the Yazoo Pumps project. This would have the effect of driving the center away from both the historic location of the bear hunt and the refuges it is intended to serve. The African American community once again was absent from the debate, which is particularly ironic given that the visitors' center was touted as symbolizing the importance of African Americans to the region's history.

Thus even an apparent a gift to the region, a federally-funded infrastructure project designed to draw in more visitors and money, could not avoid becoming entangled in the familiar and long-running regional conflict between environmentalists and agricultural interests over the implications of the pumps project for the future of the region. The final location has yet to be chosen, although EPA's veto of the Pumps Project may make settling on a site somewhat easier.

Summarizing the Dissertation's Conclusions

In my dissertation, I examine the complex relationships between state policies and practices, agriculture, nature and race in the Yazoo delta, making the following key arguments. First, Federal policy and practices have played important roles in determining

not only agricultural land use, but also in who would farm (Chapter two). Second, the region's evolving closely entwined relationship between nature and society shaped the nature of federal interventions and their reinforcing effect on its hierarchical racial formation, shifting as environmental activism became increasingly influential (Chapter three). Third, a paradox has emerged in the contestations between environmental and agricultural interests that complicates some accounts of the pervasive nature of neoliberalization: Environmentalists utilize discourses and practices that commodify nature to push for more environmentally sensitive policies, whereas their opponents emphasize the necessity of state-financed entitlements—and seek to argue that what is good for agriculture is good for the African-American community (Chapter four). Finally, attention to the administrative culture and political connectivities of the Corps shows how it has been able to resist neoliberalization in the realm of civil works projects—enabling the Pumps Project to stay alive for 60 years, unlike shorter-term initiatives that seek to regulate nature (Chapter five). In the following, I detail the findings behind each argument.

Chapter Two examines how federal policy and practices have played important roles in selecting who would farm. Building on an agricultural geography literature that elucidates the roles the state has played in protecting farmers from the vagaries of both the weather (nature) and the market (e.g. Goodman, Sorj et al., 1987; Marsden and Little, 1990; Lowe, Marsden et al., 1994; Marsden, Munton et al., 1996; Page, 1997), I focus on how practices of the state aimed at such interventions also articulate with the regional racial formation. My work examining how federal interventions to protect farmers from

the market, particularly with the passage of the Agricultural Adjustment Act in 1933, suggests that the on-the-ground implications of USDA commodity program bear closer examination.

This intervention also addresses another neglected issue in the agricultural geography literature, how the state shapes the agricultural labor market. Research focused on agricultural labor has looked narrowly at how farmers' increasing reliance on technology has dramatically reduced labor demand (Goodman, Sorj et al., 1987; Page, 1997). This focus has erased the ways in which industrialization was underwritten by state regulation of farm labor, however, whether directly through labor laws or indirectly through subsidies. In the Yazoo Delta, the mechanisms of the state, despite explicit language in the law prohibiting tenant displacement, allowed powerful landowners the flexibility to experiment with industrialization while holding on to their best sharecroppers to secure the harvest.

Beyond this, race itself—an overwhelming feature of the Yazoo Delta—has received little attention from agricultural geographers. I utilize Omi and Winant's (1994) theoretical device of the racial formation to redress this oversight, by bringing to the fore the mechanisms and processes through which the state, through laws (and their implementation) with no explicit racial intent, nonetheless perpetuates a hierarchical racial formation (Omi and Winant, 1994; Lipsitz, 1998). Pairing this theoretical construct with the particularities of the agricultural landscape in the Yazoo Delta, I show how the particularities of place and socio-historical context shape the mechanisms through which dominant groups have been able to create and maintain an economic and

social system of segregation that extends beyond the boundaries of the legal apparatus. In the Yazoo Delta, racial oppression is closely interwoven into the social and economic relations of the plantation economy (Woods, 1998; Holt, 2000), with the effect that federal intervention maintaining the viability of the plantation economy has also buttressed the regional racial formation. Indeed, the regulation of human labor may have been as important as commodity subsidies and technical assistance in constituting agricultural policy, and certainly in re-instantiating the region's racial formation.

In Chapter Three, I provide an environmental history elucidating the close connection between the Mississippi River and the Yazoo Delta's regional economy. At the heart of this history is the flooding regime of the Mississippi River and its tributaries: an annual spring flooding regime that is at once the source of the inexhaustibly fertile soil that became the foundation for the region's racially-hierarchical cotton economy and a constant threat to agricultural productivity. Necessarily, this highlights the interconnectness between agricultural and flood control policy, as these were intimately connected in facilitating the landscape transformation (flood control) necessary for economic development (agriculture). I continue to focus on not only the role of state institutions in controlling the river and developing the regional economy, contributing to discussions of how nature and society are intertwined (cf Latour 1999; Braun and Castree 1998), but also how the role of state actors has shifted over time.

I use the case of the Mississippi River Commission, the first federal entity to have jurisdiction over facilitating navigation on the Mississippi River. I trace its shift from providing engineering expertise and overall direction for the navigation program, to

providing a connection to and gaining validation from the local community, as a supporting agency to the Corps. This underscores importance of seeing the state-society divide as permeable (cf Mitchell, 1991).

I also examine the emergence of a legal infrastructure and of elements of the state apparatus, which developed alongside and aided the environmental community in its emerging efforts to question the validity of certain approaches to flood control in the Yazoo Delta. Rising Congressional and public expectations that federal agencies act in an environmentally responsible manner changed the tone of flood control debates. Environmental costs and benefits began to play a role alongside issues of hydrology and risks to both human life and economic livelihoods. The visibility and power of this movement, combined with the regulatory framework created by National Environmental Policy Act and the other environmental laws of the late 1960s and early 1970s, created a situation in which environmental degradation could be quantified and tracked, and its cumulative impacts evaluated. This enabled scientists in both federal agencies and NGOs to track the potential effects of a flood control project on wetlands acres, without going anywhere near the site. By the mid-1980s, this new capacity for environmental governance had begun to impact how the Corps understood its work in the Yazoo Delta.

Finally, I continue to examine the ways in which these practices were generative and reinforcing of the regional racial formation (cf Omi and Winant, 1994; Lipsitz, 1998), paying close attention to the historical details surrounding state practices including levee building, flood fighting, and even flood relief. To date, race and the racialized labor

force of the Yazoo Delta have largely been ignored in the history of landscape transformation,

In Chapter Four, I examine whether and how the shift from a state-led to a putatively market-oriented, neoliberal regulatory regime has affected federal interventions. I use the case of the Yazoo Pumps Project, from its inception in 1941 to what might be its ultimate demise in 2008, to examine changes in the form of and political support for the Project. In contrast to scholarship highlighting the overarching transformative effect of neoliberalization (Holifield, 2004; Prudham, 2004; Robertson, 2004b; 2006), I document a more nuanced and unpredictable dynamic. My analysis suggests that programs designed to transform nature, like the civil works program of the Corps, have been less affected by neoliberal practices than those designed to regulate nature.

In terms of the public debate over the Yazoo Pumps project, a strange twist of ideological fate has troubled any putative dominance of neoliberalism. Environmentalists working against the project have drawn on a series of neoliberal rhetorical tools to advance their goals of enhancing environmental “public goods”, like improved water quality and expanded wildlife habitat. In so doing, they have sought to promote concepts of nature that are strategic and instrumental – nature as a purveyor of economic services (flood control and water quality improvement) and a propeller of economic development (through nature-based tourism). In short, borrowing a key neoliberal device, environmentalists have commodified nature and its benefits to argue that more restoration provides more value. By contrast, the agricultural community arguing for the Yazoo

Pumps project deploys rhetoric associated with state-led regulation to argue that ongoing state-provided entitlements will make them more globally competitive.

Once again, these discussions of nature became entwined with race. In response to the political success of environmental justice movement, advocates of flood control policies that would primarily benefit wealthy landowners mobilized discourses of racial equality to suggest that federal funds should be used to support flood control rather than other measures that might more directly address racial and economic inequality. By examining the ways the ways farmers mobilize race as what others have called a “scale frame” to legitimate their argument that federal funds should be used to support flood control, instead of other measures that might more directly address racial and economic inequality, I elaborate on how environmental justice itself is used as a scale-frame to advance flood control on the federal level (cf Kurtz, 2003).

In Chapter Five, I examine how the Corps—largely because of its structure and ability to develop deep regional connection that infiltrate the political and social hierarchies in both the Yazoo Delta and Washington DC—has been able to selectively resist neoliberalism and other changes in political climate (such as the move toward more environmentally-oriented projects). This process was facilitated by both internal cultural characteristics of the agency (Shallott, 1994) and the national framework for water resource planning and development (Featherstone, 1996; Stakhiv 2003).

In the case of the Yazoo Pumps Project, the Corps’ ability to articulate locally and federally to the political structure allowed a locally-driven solution to the difficult political and hydrologic problem of how to protect both sides of the river equally, as it

became embedded in the local and federal political fabric of the Yazoo Delta. The Corps' Vicksburg District, known for its strong ties to a very strong Congressional delegation, focused on serving its local constituency rather than responding to calls for a more environmentally sensitive approach to flood protection. Without oversight from a federal body broadly responsible for water resources, and able to resolve disputes between federal agencies about local projects, this had the effect that the Project lingered unresolved for more than 60 years. By the time it was reactivated, the political mores had changed so much that even a very powerful Congressional delegation was hard pressed to save the project from the EPA veto.

This analysis provides additional insights into how programs designed to transform nature, like the Corps' civil works program, may be less affected by neoliberal practices than those designed, like the wetlands regulation program administered by the Corps, to regulate nature (Robertson, 2004a; 2004b). Building on O'Neill's (2006) work on the political embeddedness of Corps districts, I argue that civil works projects have a geographic advantage in developing and maintaining both a local constituency and connections to the Congressional delegation, as well as a temporal advantage inherent in having an authorized project that has no expiration date, that allows civil works projects to resist neoliberalism. The wetlands regulatory program, administered at the national level and addressing issues on a short time frame, does not have access to the kinds of power that enable civil works projects to outlast political fashion.

As a whole, the dissertation provides an examination of some of the social and economic benefits and costs of federal agricultural and flood control policy, particularly

in regard to their role in ameliorating or exacerbating inequalities. While this type of qualitative assessment may be difficult to reference directly in a policy debate over a specific piece of legislation, it is relevant to understanding whether federal policies and practices create the benefits that we as a society desire and, indeed, pay for. Second, it highlights a key lesson in public policy: it is not enough to get the policy right; it also needs to be implemented properly. While my example draws from implementation of agricultural policy, this insight is broadly relevant to the Corps as it seeks new allies, makes promises to new constituencies, and works to adopt new approaches in places like New Orleans, even as it absorbs budget cuts and loses key expertise through retirement and attrition. Third, the dissertation's findings push the environmental community to consider whether the federal mandate to consider environmental justice is interpreted broadly enough, particularly at the local level, to provide poor communities with environmental protection in the presence of both landscape-transforming civil works projects and daily agricultural practices.

Future Directions

This project is, not surprisingly, incomplete. At best, it represents a first pass at an ambitious effort (perhaps too largely conceived) designed to shed light on the economy, natural resources and culture of a complex and turbulent place. For me, the research has been as fascinating and enthralling as it was partial and (thereby) unsatisfying. I hope I have managed to convey some of that experience in this document and that the thesis itself incites those that read it to want to know more about this place.

The research and writing process has left me with many ideas and hopes for future projects, stemming directly and indirectly from this work.

In general, this research required that I spend so much time sorting out and making sense of the history of the region that I had to shortchange some important aspects of the data I collected, in favor of laying the ground work necessary to understand the details of how agriculture and natural resource issues play out in such a racially charged context. Thus some of my most interesting material remains unexplored; materials that could form the basis for examining the following issues that go beyond this dissertation.

First, I am interested in digging much more deeply into the ways that race has been erased from local debates. One issue came up again and again in my research: the topics and language that people use when talking about race. I found that talking about race directly yielded very little, aside from avoidance or politically correct comments about how people need help. By contrast, talking about the schools, specifically the problems in a school system with over 95% African American students, gets interesting very quickly. Nearly every white farmer I talked to brought up problems with the schools as their way of talking about the “race problem.” When discussing the ways in which the schools do not produce high quality employees, the quality of African American teachers, or why they would never send their own children there, farmers shared their opinions freely. This insight, that schools serve as a surrogate for race, was repeatedly corroborated in my discussions with others who are familiar with the Delta, but not from

there. This is consistent with others' research demonstrating that other cultural attributes have come to stand in for race in everyday discourse.

Second, I gathered extensive ethnographic data on the Corps that remains largely unanalyzed. Using this, I am interested in taking a more detailed look at the agency, exploring some of the themes developed here with respect to other Corps projects. Specifically, I am interested in comparing the different districts along the Mississippi River, to understand some of the similarities and differences in how they operate, as well as how and under what circumstance other districts connect with politically potent institutions and what other issues are bound up in those connections (e.g., agricultural productivity in the Delta).

Third, I would like to bring the analysis of agriculture in the region up to the present by examining current trends in agriculture, including both changes in cropping patterns and the policies that may or may not be shaping these trends. This would involve paying additional attention to the state agricultural programs that govern production of soy beans, cotton, corn, wheat and sorghum (the largest crops by acreage in the Delta), noting the effects of WTO mandated changes in the cotton program, for example, on planting decisions. I also would like to explore some of the less celebrated programs that may have had a significant effect on land use in the region. For example, subtle changes in the USDA crop insurance program are speculated to have caused large swings in and out of cotton between 1999 and 2005 (Robinson, 2001; Barnett, 2002). The importance of this program and as well as its interactions with other federal agricultural policies, like the subsidy program, are difficult to assess because the USDA

risk management program (which issues crop insurance) is little studied by social scientists (Skees et al 1997; LaFrance et al 2000). Another interesting development in the agricultural economy that I did not get a chance to delve into is the rise and fall of catfish farming in the backwater region. The catfish industry is especially interesting because when fish production began to increase, fish ponds were established on land that had been cleared for soybeans in the 1970s and 1980s, but was no longer profitable. When catfish production began to decline (as Vietnam came to dominate world markets), catfish farmers turned to the USDA Wetlands Reserve Program to subsidize taking their land out of production.

Of course, this list is just the beginning of the interesting issues one could take up in working to understand the complicated connections between the state, race, inequality, poverty, agriculture and natural resource management in the Yazoo Delta. The Delta is an amazing, and relatively unexplored, laboratory for understanding the confluence of these issues. I hope to be able to spend more time there in order to delve further into these important topics, and hope that others also will see the potential of working in the region.

Bibliography

- Aiken, C. (1978). "The Decline of Sharecropping in the Lower Mississippi River Valley " Geoscience and Man **XiX**: 151-165.
- Aiken, C. (1990). "A new type of black ghetto in the plantation South." Annals of the Association of American Geographers **80**(2): 223-246.
- Alston, L. and K. Kauffman (1998). "Up, down and off the agricultural ladder: new evidence and implications of agricultural mobility for blacks in the postbellum South." Agricultural History **72**(2): 263-280.
- Anfinson, J.O. (2003). The River We Have Wrought. Minneapolis, MN, University of Minnesota Press.
- Army Corps of Engineers, (2008). "US Army Corps of Engineers: Who We Are." <http://spatialdata.sam.usace.army.mil/USACE/WhoWeAre.aspx>. Retrieved September 25, 2008.
- Arnold, J. L. (1988). The Evolution of the 1936 Flood Control Act. Washington, DC, Office of History, Army Corps of Engineers.
- Barry, J. M. (1997). Rising tide : the great Mississippi flood of 1927 and how it changed America. New York, Simon & Schuster.
- Boeger, E. A. and Goldenweiser (1916). A study of the tenant systems of farming in the Yazoo-Mississippi Delta. USDA, USDA. **Bulletin / United States Department of Agriculture ; no. 337**.
- Boyd, W. and M. Watts (1997). Agro-Industrial Just In Time: The Chicken Industry and Postwar Capitalism. Globalising Food. D. Goodman and M. Watts. London, Routledge.
- Brandfon, R. L. (1967). Cotton kingdom of the new South; a history of the Yazoo Mississippi Delta from reconstruction to the twentieth century. Cambridge, Mass., Harvard University Press.
- Braun, B. and N. Castree (1998). Remaking reality : nature at the millennium. London ; New York, Routledge.
- Camillo, C. A. a. M. T. Percy (2004). Upon Their Shoulders: A History of the Mississippi River Commission from its Inception Through the Advent of the Modern Mississippi River and Tributaries Project. Vicksburg, Mississippi, Mississippi River Commission
- Cash, W. M. and R. D. Lewis (1986). The Delta Council: Fifty Years of Service to the Mississippi Delta. Stoneville, MS, Delta Council.
- Cobb, J. C. (1992). The most southern place on earth : the Mississippi Delta and the roots of regional identity. New York, Oxford University Press.
- Cochrane, W. W. (1958). Farm prices, myth and reality. Minneapolis,, University of Minnesota Press.
- Cochrane, W. W. (1993). The development of American agriculture : a historical analysis. Minneapolis, University of Minnesota Press.
- Cody, C. (1997). Possibilities for controlling backwater flooding narrowed. Vicksburg Post. Vicksburg.

- Conrad, D. E. (1965). The forgotten farmers: the story of sharecroppers in the New Deal. Urbana,, University of Illinois Press.
- Coordinating Committee, National Research Council (2004). U.S. Army Corps of Engineers Water Resources Planning: A New Opportunity for Service. Washington, DC, National Research Council.
- Corps (1975). Final EIS Yazoo Basin. U.S. Army Corps of Engineers, Vicksburg District.
- Corps (1982). Final EIS Yazoo Backwater Pumping Station. U.S. Army Corps of Engineers, Vicksburg District.
- Corps (2000). Draft Supplemental EIS for the Yazoo Pumps Project. U.S. Army Corps of Engineers, Vicksburg District.
- Corps (2003). Corps of Engineers Watershed Restoration Projects, unpublished memo. Washington, DC, US Army Corps of Engineers.
- Corps (2007). Final Environmental Impact Statement. U.S. Army Corps of Engineers, Vicksburg District.
- Council, D. (1998). South Delta Citizens for Flood Control Formed. Delta Report. Stoneville, MS.
- Crowe, G. B. (1949). Mechanical cotton picker operation in the Yazoo-Mississippi Delta: a progress report. USDA, Bureau of Agricultural Economics.
- Crowe, G. B. and J. T. Holstun (1953). The Economics of Weed Control in Cotton. USDA, Mississippi State College Agricultural Experiment Station.
- Danbom, D. B. (1995). Born in the country : a history of rural America. Baltimore, Johns Hopkins University Press.
- Daniel, P. (1972). The shadow of slavery: peonage in the South, 1901-1969. Urbana,, University of Illinois Press.
- Daniel, P. (1977). Deep'n as it come : the 1927 Mississippi River flood. New York, Oxford University Press.
- Daniel, P. and American Council of Learned Societies. (1985). "Breaking the land the transformation of cotton, tobacco, and rice cultures since 1880." from <https://www.lib.umn.edu/slog.phtml?url=http://hdl.handle.net/2027/heb.00367>
- Editorial (2007). Yazoo Pumps, They're Back. November 6, 2007. New York Times. New York.
- Featherstone, J. P. (1996). Water Resources Coordination and Planning at the Federal Level: The Need For Integration. Journal of Contemporary Water Resrouces and Education, Universities Council on Water Resources.
- Fever, D., D. (August 15, 1986). Closing in on Water Legislation. Washington Post. Washington, DC.
- Friedmann, H. (1991). Changes in the International Division of Labor: Agri-food Complexes and Export Agriculture. Towards a New Political Economy of Agriculture. W. Friedland, L. Busch, F. H. Buttel and A. P. Rudy. Boulder, San Francisco, Oxford, Westview Press.
- Friedmann, H. (1994). Distance and Durbility: Shaky Foundations of the World Food Economy. The Global Restructuring of Agro-Food Systems. P. McMichael. Ithica, Cornell University Press: 258-276.

- Friedmann, H. a. P. M. (1989). "Agriculture and the State System." Sociologia Ruralis **XXIX**(2): 93-117.
- Galloway, G. E. (1980). Ex post evaluation of regional water resources development : the case of the Yazoo-Mississippi delta. Fort Belvoir, Va., U.S. Army Engineer Water Resources Support Center Institute for Water Resources.
- Goodman, D., B. Sorj, et al. (1987). From Farming to Biotechnology. Oxford, Basil Blackwell, Ltd.
- Governor's Advisory Committee on the Yazoo Basin Projects (1989). Final Report and Recommendation to Governor Ray Mabus. Jackson, Mississippi, State of Mississippi.
- Grunwald, M. (2000). An Agency of Unchecked Clout. The Washington Post. Washington, DC: A27-A28.
- Grunwald, M. (2000). Working to Please Hill Commanders. Washington Post. Washington, DC.
- Grunwald, M. (February 2, 2008). A Green Day for Bush. Time.
- Guedon, N. B. and J. V. Thomas (2004). State of Mississippi Water Quality Assessment 2004 Section 305(b) Report Addendum Jackson, Mississippi, Department of Environmental Quality.
- Guthman, J. (2004). Agrarian dreams : the paradox of organic farming in California. Berkeley, University of California Press.
- Hargis, P. (1998). "Beyond the marginality thesis: the acquisition and loss of land by African Americans in Georgia 1880-1930." Agricultural History **72**(2): 241-263.
- Harrison, R. W. (1950). "Levee Building in Mississippi Before the Civil War." Journal of Mississippi History **XII**: 80-92.
- Harrison, R. W. (1951). Levee districts and levee building in Mississippi; a study of State and local efforts to control Mississippi River floods. [Stoneville? Miss.], Delta Council.
- Harrison, R. W. (1961). Alluvial empire; a study of state and local efforts toward land development in the alluvial valley of the lower Mississippi River, including flood control, land drainage, land clearing, land forming. Little Rock, Ark, Delta Fund in cooperation with Economic Research Service U. S. Department of Agriculture.
- Harrison, R. W. and J. F. Mooney (1993). Flood control and water management in the Yazoo-Mississippi Delta. Mississippi State, MS, Social Science Research Center, Mississippi State University.
- Henderson, G. L. (1999). California & the fictions of capital. New York, Oxford University Press.
- Hoelscher, S. (2003). "Making Place, Making Race: Performances of Whiteness in the Jim Crow South." Annals of the Association of American Geographers **93**(3): 657-686.
- Holifield, R. (2004). "Neoliberalism and environmental justice in the United States environmental protection agency: Translating policy into managerial practice in hazardous waste remediation." Geoforum **35**: 285-297.
- Hollis, P. (2005). Demographics study reveals facts about farm operators in U.S. Southeast Farm Press.

- Holt, T. C. (2000). The problem of race in the twenty-first century. Cambridge, MA, Harvard University Press.
- Huffman, A. (1979). Delta Faces Flood Despite New Levee. Clarion Ledger. Jackson, MS.
- Huffman, A. (1986). Draining plan for South Delta Draws Criticism. Clarion Ledger. Jackson, MS.
- Huffman, A. (December 13, 1987). Delta Drainage Project Community, Corps Clash. Clarion Ledger. Jackson, Mississippi.
- Huffman, A. (1988). Woes Continue for Yazoo Projects. Jackson, MS.
- Huffman, A. (1989). Corps won't push Yazoo flood project. Clarion Ledger. Jackson, MS.
- Kautsky, K. (1988). The agrarian question : in two volumes. London ; Winchester, Mass., Zwan Publications.
- Kurtz, H. (2003). "Scale frames and counter-scale frames: constructing the problem of environmental injustice. ." Political Geography **22** ((8)): 887-916.
- LaFrance, J.T., J.P. Shimshack and S.Y. Wu. (2000). "Subsidized Crop Insurance and the Extensive Margin." USDA Economists' Group, Washington DC.
- Langsford, E. L. and B. H. Thibideaux (1939). Planation Organization and Operation in the Yazoo-Mississippi Delta Area. USDA, Technical Bulletin 626.
- Latour, B. (1999). Pandora's Hope: Essays on the Reality of Science Studies. Cambridge, Massachusetts, Harvard University Press.
- Laws, F. (1997). Delta Farm Press. Delta Farm Press.
- LeRay, N. and G. B. Crowe (1959). Labor and technology on selected cotton plantations in the Delta area of Mississippi, 1953-1957. USDA, Mississippi State University Agricultural Experiment Station.
- Lipsitz, G. (1998). The possessive investment in whiteness : how white people profit from identity politics. Philadelphia, Temple University Press.
- Lowe, P., T. Marsden, et al. (1994). Regulating agriculture. London, David Fulton Publishers.
- Maass, A. (1951). Muddy waters; the Army Engineers and the Nation's rivers. Cambridge,, Harvard University Press.
- MacDonald, P. O., W. E. Frayer, et al. (1979). Documentation, Chronology, and Future Projections of Bottomland Hardwood Habitat Loss in the Lower Mississippi Alluvial Plain. Vicksburg, Mississippi, US Fish and Wildlife Service.
- Mann, S. (1990). Agrarian capitalism in theory and practice. Chapel Hill, University of North Carolina Press.
- Mann, S., A. and J. A. Dickinson (1980). State and Agriculture in Two Eras of American Capitalism. Rural Sociology of the Advanced Societies. F. H. Buttel and H. Newby. Montclare, Allanheld, Osmun and Co.: 283-325.
- Mansfield, B. (2004). "Neoliberalism in the oceans: "rationalization," property rights, and the commons question." Geoforum **35**: 313-326.
- Marine, G. (1969). American the Raped: The Engineering Mentality and the Devastation of the Continent. New York, Simon and Schuster.

- Marsden, T. and J. Little (1990). Introduction. Political, Social and Economic Perspectives on the International Food System. T. Marsden and J. Little. Aldershot, Avebury: 1-18.
- Marsden, T., R. Munton, et al. (1996). "Agricultural Geography and the Political Economy Approach: A Review." Economic Geography **72**(4): 361-375.
- Marsden, T., R. Munton, et al. (1986). "Towards a Political Economy of Agriculture: A British Perspective." International Journal of Urban and Regional Research **10**: 498-521.
- Mazmanian, D. A. and J. N. Clarke (1979). Can organizations change? : environmental protection, citizen participation, and the Corps of Engineers. Washington, Brookings Institution.
- McCarthy, J. (2004). "Privatizing conditions of production: trade agreements as neoliberal environmental governance " Geoforum **35**: 327-341.
- McLean-Meyinsse, P. and A. Brown (1994). "Survival Strategies of Successful Black Farmers." The Review of Black Political Economy **22**(4): 73-84.
- McMichael, P. (1994). Global Restructuring: Some Lines of Inquiry. The Global Restructuring of Agro-Food Systems. P. McMichael. Ithaca, Cornell University Press: 277-300.
- Messina, F. (1986). Farmers, Conservationists Argue Need of Plant. Vicksburg Post. April 6, 1986, Vicksburg, Mississippi.
- Messina, F. (1986). Congress Okays Project, But Requires Local Millions. Vicksburg Post. October 21, 1986, Vicksburg, MS.
- Messina, F. (2007). EIS Released on the Pumps. Vicksburg Post. November 7, 2007, Vicksburg, MS.
- Minnesota Population Center. National Historical Geographic Information System: Pre-release Version 0.1. Minneapolis, MN: University of Minnesota 2004. <http://www.nhgis.org>).
- Mitchell, T. (1991). "The Limits of The State: Beyond Statist Approaches And Their Critics." American Political Science Review **85**(1): 77-96.
- Moore, N., R. (1972). Improvement of the Lower Mississippi River and Tributaries 1931-1972. Vicksburg, Mississippi, Mississippi River Commission.
- Mosby, R. (2000). Beware of Greeks Bearing Gifts? Deer Creek Pilot. April 6, 2000, Rolling Fork, MS.
- Mosby, R. and N. Perkins (2003). Yazoo Pump: Whose Homes Here Are Flooding? Deer Creek Pilot. February 27, 2003, Rolling Fork, MS.
- Nelson, L. J. (1999). King Cotton's advocate : Oscar G. Johnston and the New Deal. Knoxville, University of Tennessee Press.
- National Wildlife Federation (2009). Yazoo Pumps Get Dumped Dec/Jan 2009, vol. 47 no. 1, National Wildlife Federation, Washington, DC.
- Oeth, A. (1997). Activist proposes moving people over costly flood control projects. Clarion Ledger. May 14, 1997, Jackson, MS.
- O'Neill, K. M. (2006). Rivers by design : state power and the origins of U.S. flood control. Durham, NC, Duke University Press.

- Omi, M. and H. Winant (1994). Racial formation in the United States : from the 1960s to the 1990s. New York, Routledge.
- Paarlberg, R. and D. Paarlberg (2000). "Agricultural Policy in the 20th Century." Agricultural History **74**(2): 136-161.
- Page, B. (1996). "Across the Great Divide, Agricultural and Industrial Geography." Economic Geography **72**(4): 376-397.
- Page, B. (1997). Restructuring Pork Production, Remaking Rural Iowa. Globalizing Food. D. Goodman and M. Watts. London, Routledge.
- Percy, W. A. (1941). Lanters on the Levee. Baton Rouge, Louisiana State University Press.
- Philippi, N. S. (1994). Revisiting Flood Control: An Examination of Federal Flood Control Policy in Light of the 1993 Flood Event on the Upper Mississippi River. Chicago, IL, Wetlands Research, Inc.
- Post, V. E. (1978). Mitigation Efforts Lags. Vicksburg Evening Post. Vicksburg, Mississippi: 1.
- Poulantzas, N. (1978). State, Power, Socialism. London and New York, Verso Classics.
- Prudham, S. (2004). "Poisoning the well: neoliberalism and the contamination of municipal water in Walkerton, Ontario." Geoforum **35**: 343-359.
- Reid, B. (1996). Yazoo Pumping Plant has Conservationist Angry at Cochran. Clarion Ledger. September 28, 1996, Jackson, MS.
- Reid, B. (1997). Top Officials Will Debate Flood Control. Clarion Ledger. June 4, 1997, Jackson, MS.
- Reid, B. (1998). Delta Farmers Say They Feel Shut Out of Wetland Program. Clarion Ledger. April 28, 1998, Jackson, MS.
- Reid, B. (2000). Will flood plans stay afloat? Clarion Ledger. August 23, 2000, Jackson, MS.
- Reisner, M. (1993). Cadillac desert : the American West and its disappearing water. New York, N.Y., U.S.A., Penguin Books.
- Reuss, M. (1982). "The Army Corps of Engineers and Flood Control Politics on the Lower Mississippi." Louisiana History **23**(2).
- Reuss, M. (1983). Shaping environmental awareness: the United States Army Corps of Engineers Environmental Advisory Board, 1970-1980. Washington, DC, Historical Division, Office of Administrative Services, Office of the Chief
- Robertson, M. (2004a). Drawing Lines in the Water: Entrepreneurial Wetlands Mitigation Banking and the Search for Ecosystem Service Markets. Geography. Madison, University of Wisconsin. **PhD**.
- Robertson, M. (2004b). "The neoliberalization of ecosystem services: wetland mitigation banking and problems in environmental governance." Geoforum **35**: 362-373.
- Robertson, M. (2006). "The nature that capital can see: science, state, and market in the commodification of ecosystem services." Environment and Planning D **24**: 367-387.
- Saikku, M. (2005). This delta, this land : an environmental history of the Yazoo-Mississippi floodplain. Athens, University of Georgia Press.

- Shallat, T. A. (1994). Structures in the stream : water, science, and the rise of the U.S. Army Corps of Engineers. Austin, University of Texas Press.
- Skees, J. R., B. J. Barnett, and J. R. Black. "Designing and Rating an Area Yield Crop Insurance Contract." *American Journal of Agricultural Economics* 79(1997): 430–438.
- Stakhiv, E. (2003) "Disintegrated Water Resources Management in the U.S.: Union of Sisyphus and Pandora." Journal of Water Resources Planning and Management vol. 129, issue 3, pp 151-154.
- U.S. Congress (1941). Flood Control Hearings. House Document 359, 77th Congress, 1st Session, Washington DC.
- U.S. Congress, U. S. (1964). Mississippi River and Tributaries Project. House Document 308, Washington, DC.
- U.S.D.A.NASS Data (2009). <http://www.nass.usda.gov/>
- U.S. Fish and Wildlife Service, (2001). U.S. Fish and Wildlife Perspective on The Corps of Engineers' Proposed Yazoo Pumps Project. Jackson, Mississippi, U.S. Fish and Wildlife Service.
- U.S. Fish and Wildlife Service, (2003). "Lower Mississippi Valley Joint Venture." www.lmvjv.org, Retrieved October 15, 2007.
- Tate, R., D Jr. (1978). Easing the Burden: The Era of Depression and New Deal in Mississippi. Knoxville, TN.
- Vail, D. (1994). Sweden's 1990 Food Policy Reform: From Democratic Corporatism to Neoliberalism. The Global Restructuring of the Agro-Food Systems. P. McMichael. Ithica, Cornell University.
- White, G. F. (1945). Human adjustments to floods; a geographical approach to the flood problem in the United States. Chicago, Ill.,.
- Willis, J. C. (2000). Forgotten time : the Yazoo-Mississippi Delta after the Civil War. Charlottesville, University Press of Virginia.
- Woodman, H. (2001). "Political Economy of the New South: Retrospects and Prospects." The Journal of Southern History vol LXVII(4).
- Woodruff, N. E. (1990). "Pick or Fight: The Emergency Farm Labor Program in the Arkansas and Mississippi Deltas During World War II." Agricultural History 64(2): 74-85.
- Woods, C. A. (1998). Development arrested : the Blues and Plantation Power in the Mississippi Delta. London ; New York, Verso.
- Woodward, C. V. and American Council of Learned Societies. (1971). "Origins of the new South, 1877-1913." from <https://www.lib.umn.edu/slog.phtml?url=http://hdl.handle.net/2027/heb.00007>
- Wright, G. (1986). Old South, New South : revolutions in the southern economy since the Civil War. New York, Basic Books.
- Zimmerer, K. (2000). "The reworking of conservation geographies: Nonequilibrium landscapes and nature-society hybrids." Annals of the Association of American Geographers 190(2): 356-370.

Appendix I – Methodology

Personal Background (the baggage)

As discussed in chapter one, I began this research already with significant experience in the Yazoo Delta, and a commitment to examining the connections between natural resource conservation and economic opportunities for the less privileged in the region. I was introduced to the Yazoo in October 1996, during a three-day site visit for The National Fish and Wildlife Foundation where I worked at the time. This was quickly followed by several further visits and I began reading historical accounts of the region, becoming enthralled with the mystique of the Yazoo Delta. Since that first trip, I have been traveling there every few months; first for conservation work and then for dissertation research.

I also come to this project with as a veteran Corps of Engineers watcher who has kept tabs on environmentalists efforts to alternately change the way the Corps does business and to highjack the agency's civil works budget and turn it to environmental restoration for more than 10 years. Finally, I come to this work with an intimate knowledge of the Conservation Title of the Farm Bill and the opportunities it affords for farmers in the Delta to retire land and restore the bottomland hardwood wetlands that once dominated the region. In sum, I come to this work as an environmentalist who believed strongly that federal natural resource policy in the Yazoo Delta had much to do with the livelihood possibilities for those who lived there.

Methods Used

I used a variety of qualitative methods to collect and analyze data for my project.

At the center of my research is an extensive analysis of the more than 60 interviews I conducted. I sought to interview key players in the pumps debates: I interviewed Corps employees from both the Vicksburg District and the Mississippi Valley Division (also located in Vicksburg), FWS employees from the Jackson Ecological Services Office as well as some partnership programs in Vicksburg, USDA employees in the Delta and in Washington DC, employees from other federal agencies, large cotton farmers who supported the project, a few local farmers who opposed the project, area residents very involved in the pumps debate, representatives from local farmer organizations, and environmentalists from Jackson as well as those that worked against the project from Washington DC and San Francisco. I started with the federal employees (and exempt IRB status), working to identify those engaged in the pumps process through key contacts in the agencies. As my project progressed, I received full IRB clearance and began to approach farmers, delta residents and environmentalists. I used newspaper articles to identify the key players who had spoken out publicly in the debate to approach them for interviews.

All interviews covered a series of topics including:

- History of the Mississippi River and Tributaries Project (including the Yazoo Pumps)
- History and implications of agriculture and policy in Yazoo Delta,
- Connections between federal policy and land use change in the region
- Socio-economic implications of federal policy in the region.

I used a standard interview protocol that was modified slightly depending on who the subject was (a sample interview protocol is attached as an appendix). Interviews with Corps and USDA employees also included a series of specific questions relating to and how each agency's authority, culture, budgets and other characteristics related to the result of federal policy. The NGO community, farmers, and the natural resource agency employees were asked a corresponding series of questions about their experiences working with the USDA and Corps and their perceptions of the agencies and the constraints they faced.

Overall, I had a great experience interviewing subjects. I enjoyed the conversations and learned a lot. I was very cautious, probably overly so, with federal employees and regional farmers about how I talked about the Pumps Project as I was concerned that if I revealed my background in conservation they would answer me less candidly (if at all). Thus, I would sometimes "scale-up" my questions asking about flood control at the scale of the Mississippi River and Tributaries project and hope that they might take the lead on discussing the pumps. While I did have a few interviewees grow very reticent at the topic of the pumps, there were many fewer than I had expected.

Unfortunately, with only a few exceptions, my interviewees were white. While I attempted to interview African American farmers, they were difficult to find and only one was willing to talk with me. I also tried to interview local African American residents, but found that difficult as well. In total, I interviewed one farmer, one local resident, and two Corps employees who were African American. I was unable to interview Ruby Johnson, the African American woman who was so outspoken on flood control in the

backwater area. By the time I began my fieldwork in 2004, she was no longer active on these issues. While she was hospitable and agreed to talk with me, we were not able to find a time that worked for her to conduct the interview. With more time in the region, I might have been able to locate and interview more African Americans, which, I believe would have benefited the project.

Predictably, I found it difficult to elicit many interesting discussions about race issues, particularly as related to the pumps. Environmentalists in San Francisco and Washington, DC are happy to talk about race, but those in the region are more reserved. As discussed in the conclusion, nearly every farmer found a way to bring up the local public schools as a way to comment on the racial politics of the region.

One of the big obstacles to addressing both the pumps project and the lack of discussion about race as related to the project are the issues surrounding Delta Council in the region. As discussed in the body of the dissertation, the Delta Council is widely perceived to be the keeper of the old guard agricultural power structure. Many are, rationally or irrationally, worried about retribution from getting “crosswise” with Delta Council. Indeed, anecdotal accounts of such retribution circulate. For example, I heard several times about how the local paper in Sharkey and Issaquena had lost advertising revenues after publishing a series of articles critical of the Corps analysis on the pumps project, a claim that was downplayed by an employee of the newspaper. A former employee of a conservation group in Jackson claimed that he could not cross the bridge at Yazoo City (one of the gateways to the Delta) without receiving a call from the Delta Council to let him know they were aware of his visit.

It is frankly, difficult to assess the effects of this sort of climate on my research. I know that people often asked me to turn off the tape recorder when they talked about Delta Council or the pumps project. Often I had the most interesting part of an interview after the interview was over and the tape recorder and note pad were put away. Whether or not the Delta Council is actually powerful enough to exact revenge for speaking out against the pumps project, the organization's perceived power is a source of concern for many in the region.

Once completed, (see Appendix B for a list of all interviews), these interviews were selectively transcribed, relevant portions were coded. Because I knew that I might not be able to transcribe all the interviews, I took careful notes during each one and, at the end of each day tried to spend a bit of time noting the key information (if any) from each interview. Due to time constraints, I only transcribed those parts of each interview that I thought would materially contribute to the analysis.¹⁸⁰

In general, these interviews were focused on the current debates about the pumps and agriculture in the Yazoo Delta stretching back as far as the 1970s. A few with Corps employees well versed in the history of the MR&T stretched back into the early history of the efforts to control flooding in the Yazoo Basin (as well as other key areas in the MAV). In order to fill out the historical analysis in the dissertation, I supplemented these interviews with archival documents on the development of agriculture and flood control policy in the region, as well as a variety of secondary materials including newspaper articles, brochures, and some key history books.

¹⁸⁰ Three or four interviews were fully transcribed, the majority was selectively transcribed, and about 26 were not transcribed at all. Most of these were with USDA employees in Washington, DC and were too generally focused to be useful.

The first two chapters of the dissertation provide a historical account of the economic development of the region with respect to the role of agricultural policy (Chapter 2) and flood control policy (Chapter 3).¹⁸¹ My goal was to use secondary research as well as archival work to explore the particular ways that federal agricultural and flood control policy have operated in the region, in order to examine the role of the federal state's natural resource policy in the regional economy. I set out to integrate these sources with ideas from state theory within a political economy of agriculture analysis to examine how agriculture and flood control policy regulate and direct capital in the region.

While these historical chapters were informed by my interviews, the bulk of the material came from secondary data. I constructed my initial analysis based on a series of key secondary text including: James Cobb's (1992), *The Most Southern Place on Earth* Clyde Woods' (1998), *Development Arrested*, Pete Daniel's (1977; 1985) *Deep 'in as it Come: the 1928 Mississippi River Flood and Breaking the Land*, John Barry (1997) *The Rising Tide*, Charles Camillo and Matthew Percy's (2004) *Upon Their Shoulders: A History of the Mississippi River Commission*, Mikko Saikko's (2005) *This Delta, This Land: An Environmental History of the Yazoo-Mississippi Floodplain*, and Robert Harrison's (1961) *Alluvial empire: A Study of State and Local Efforts Toward Land Development in the Alluvial Valley of the Lower Mississippi River*.

I then supplemented the information that I gathered from these text with archival materials including agency planning documents, Congressional Records, USDA funded

¹⁸¹ These two chapters actually began as one because my goal was to examine the connection between flood control policy and agricultural policy in the development of the regional economy. This approach, however, was too cumbersome and the chapters were broken apart to allow for more coherence of argument in each as well as a detailed picture of the historical development of each system.

studies of the region, Environmental Impact Statements (EIS), reports produced by the natural resources agencies documenting changes in land use and environmental quality, speeches, agency brochures and other self-representations, newsletters and correspondence. In terms of understanding the history of agricultural development in the region, I found a series of studies conducted by USDA detailing the progress of mechanization of agriculture and the development of land in the region particularly helpful. From the 1930s through the 1950s, USDA, flush with funds from the New Deal, produced a wealth of interesting reports that provide significant insight into how quickly farming practices in the Delta changed after the passage of the Agricultural Adjustment Act in 1933. These range from technical reports on the rise of mechanical cotton pickers and the use of pesticides, to sociological studies of the types of farmers settling in the backwater and whether they had screens in their windows. I also draw on secondary histories of agricultural policy for the framework to understand the evolution of agricultural policy from its inception.

For the examination of the flood control, I paired the key secondary texts with Corps planning documents, Congressional Records, EISs, and reports from the US Fish and Wildlife Service discussing the retreat of the bottomland hardwood forest. Because all early Mississippi River Commission and Corps of Engineers Reports were submitted to Congress in full, the Congressional Record was a critical source to understand changes in the flood control system for the Lower River.

For both the history of agriculture and flood control, I worked through all the materials by developing a detailed outline of key events. I then used this outline to

extract key themes to be developed in each chapter, working back and forth from the theoretical framework I had established in the proposal to integrate these ideas into the narratives I was developing (with vary degrees of success).

For the Yazoo Pumps project (Chapter 4) I sought to examine the political, social and institutional contexts for this project as well as the construction and deployment of race and nature as key categories underwriting the debate over flood control vs. agriculture in the region. Here I drew first on the interviews described above and then on primary and secondary material from agency archives. Primary materials came from the Corps of Engineers Historical Archive, in Vicksburg MS, as well as from the US Fish and Wildlife Service (FWS). Through the Corps, I was able to access some of the original design memoranda for the pumps project, as well as articles and other documents portraying how the Corps understood its role in the region's economic development. The FWS has no formal archives, but the staff working on the Pumps Project allowed me access to all available memos, correspondence, phone notes, background research and other materials related to the agency's involvement, dating back to the 1960s. In addition to these internal documents, the FWS staff had also been keeping newspaper clippings on the project as it developed from the Clarion Ledger, the paper of record in Jackson Mississippi, and a number of smaller local papers that are not available from any libraries, even in the region.

In order to fill in the gaps and get a broader perspective on some of the debates, I used the archives for the Clarion Ledger to locate additional coverage on the development of the Pumps and related projects. The Clarion Ledger does not have an

online index (and is not in Lexis/Nexus) but was indexed informally by a librarian at the Eudora Wealty Public Library in Jackson (both the index and the microfilms of back issues are available only in Jackson). I drew on all these sources to develop a detailed time line of the project that became the basis for my analysis. From this time line I developed a set of themes that I sought to pay attention to in the course of the analysis.

These themes included:

- The changing role of the state, in terms of both agriculture and flood control policy. (The shift from a state-led development to a neo-liberal framework.)
- The role of race in the debate: how it comes to light and how it is erased.
- The contradictions between federal policy and its implementation, in the case of both the USDA and the Corps.
- The articulation between NGOs and the federal agencies on both sides of the pumps debates (environmental groups' connections with FWS and Delta Council's connection with the Corps and USDA).
- The scale at which federal policy is determined and implemented, and how scale plays into the debate from the perspective of the environmental NGOs involved.
- Changes in the ways that nature was/is valued by federal agencies, the environmental community, and the local community.

These themes, amended and revised as the analysis progressed, became the major topics I address in my analysis of the Pumps Project and the Corps of Engineers.

My analysis of the regional workings of the Corps (chapter five) sought to investigate how agency structure and connections to Congress shape local, on-the-ground

policy implementation, and shed light on how the Yazoo Pumps project lingered for so long as it is has. I also sought to explore how agency employees understand institutional self-interest, how that understanding intersects with specific, strategic uses of race and environment, and how legislative and budgetary constraints create an institutional structure that materially affects policy development and implementation at the scale of the district--the Corps' local administrative unit. For this analysis, I drew on the water resources policy literature, as well as the few historical accounts of the Corps of Engineers, Howard Maass' (1951) *Muddy Waters*, Julie O'Neill's (2006) *Rivers by Design: State Power and the Origins of U.S. Flood Control*, and Stephen Shallot's (1994) *Structures in the Stream*, to set up the context within which to understand the agency and its work. In addressing whether and how the agency reacted to legislative and other mandates for change, I utilized studies on the Corps and its planning processes by the National Academy of Science, as well as books and articles written by Martin Ruess and the Corps' other historians.¹⁸² In addition, I relied heavily on my interviews, particularly those with Corps and FWS personnel as well as those with environmental groups, which focused specifically on the changing mission of the Corps, and how the agency responds to political forces from above (Congress) and below (the state and local government agencies that serve as local sponsors for Corps projects). I also sought to gain insight into the ways that institutional constraints of the Corps (a budget organized exclusively around project specific funding for example) create perverse incentives for the agency to hold on to projects that do not mesh well with the current mission and direction of the

¹⁸² As a military agency, the Corps has agency historians who have developed books about each district and division. Much of this can be dismissed as propaganda but Martin Ruess, the lead historian of the Corps is quite well respected and well published.

agency in an effort to maintain a work force. Questions along these lines, however, were more difficult to generate productive conversation.

Conclusion

The combination of sources that I found and analyzed for the dissertation gave me strong sense of flood control and agricultural policy in the Yazoo Delta. In particular the agency documents I collected and interviews I conducted added both depth and color to my analysis, even though I was not able to use all the material directly and have much of it stowed away for future research.

Appendix A – Sample Interview Guide

I am a graduate student in Geography at the University of Minnesota. I am studying land use change and federal flood control and agricultural policy in the Mississippi Delta. In association with my study, I am interviewing personnel from the Army Corps of Engineers as well as the USDA. In both cases, I am interested in how the workings of the agency affect the ways that policy is developed and implemented. I have intentionally tried to keep questions short and open ended, the interview should take no longer than an hour. The records of this study will be kept private. In any sort of report I might publish based on this research, I will not include names or other identifying information. Research records, including any notes and/or audiotapes from interviews, will be stored securely and only the researcher will have access to the records.

I appreciate your willingness to talk with me and look forward to hearing your perspective.

Date/time of interview:

Place of interview:

Questions:

Interviewee Information

- 1) What is your position and your job within the agency?
- 2) How long have you worked for the agency?
- 3) What other offices have you worked in/other agencies have you worked for and in which capacity? (Other positions? Other Divisions? Other agencies?)

Agency Mission

- 4) How would you describe the mission of the agency?
- 5) How would you describe the balance between different aspects of the mission? (Is that balance been different in other parts of the agency? If so why?)
- 6) In your opinion has the balance changed over the past decade (Corps: Have the Continuing Authorities Programs geared towards the environment, specifically 1135 and 206 meant more focus on the environment? Did the 1986 Water Resources Development Act bring changes? USDA: Did the new programs in the 1996 Bill change resource allocation between environmental issues and production agriculture?)

- 7) How are priorities determined and resources allocated in the agency? (Are priorities generated internally from within the agency or from the community or Congress?)
- 8) Specifically, what role does Congress play in determining agency priorities? (How often do projects plans and priorities originate within the agency vs. with congress?)
- 9) Through what mechanisms does the Corps/USDA coordinate with other agencies on civil works projects?
- 10) Through what mechanisms does the Corps/USDA coordinate with other agencies on environmental projects?

MR&T project (Questions for Corps Personnel)

- 11) Is the Mississippi River & Tributaries (MR&T) project typical of Corps projects? How is it similar to and different from other projects?
- 12) Which aspects of the Corps mission are most important in the (MR&T) project?
- 13) Can you tell me something about the history of the MR&T project? How did it come about? What were the primary reasons for its introduction?
- 14) What would you say were the biggest influences on the development of the MR&T (floods? Congress? Corps personnel?)
- 15) How does the project continue today? What are the major components of the MR&T project today? (Is most of the work maintenance? New aspects? Environmental Projects?)
- 16) How does the environmental aspect of the Corps's mission implemented through the MR&T project (how is this different from the Upper Mississippi?)
- 17) Which other federal, state and local government agencies are involved in implementing the MR&T project? (How are they involved?)

Agricultural Subsidies in the Yazoo Delta (Questions for USDA personnel)

- 18) What can you tell me about the history of agricultural subsidies in the Yazoo region? (Is it different in other regions? Why or why not)
- 19) In your opinion what is the role of crops subsidies and corps insurance in the economy of the Yazoo Delta?

- 20) What about agricultural conservation programs? How are they used in the region? What role do they play in supporting farm incomes?
- 21) How do you see these subsidies evolving in the region? (In relation to international trade agreements?)

Flood control and agriculture in relation to land use change

- 22) In your opinion, has flood control facilitated economic development in the region historically? If so, how?
- 23) Does flood control play that same role today? (If different how is it different?)
- 24) In your opinion, is there a relationship between flood control and land use change in the region?
- 25) Do you see a link/relationship between flood control policy and agricultural subsidies in the region? What about between flood control and agricultural conservation programs?

Appendix B-List of Interviews Conducted

- #1 Corps of Engineers Employee, Vicksburg, MS, November 17, 2004
- #2 Corps of Engineers Employee, Vicksburg, MS, November 17, 2004
- #3 Corps of Engineers Employee, Vicksburg, MS, November 18, 2004
- #4 Corps of Engineers Employee, Vicksburg, MS, November 18, 2004
- #5 Corps of Engineers Employee, Vicksburg, MS, November 19, 2004
- #6 Corps of Engineers Employee, Vicksburg, MS, November 19, 2004
- #7 US Fish and Wildlife Service employee, Jackson, MS, January 9, 2005
- #8 US Fish and Wildlife Service employee, Jackson, MS, January 9, 2005
- #9 Corps of Engineers Employee, Vicksburg, MS, January 10, 2005
- #10 Corps of Engineers Employee, Vicksburg, MS, January 10, 2005
- #11 Corps of Engineers Employee, Vicksburg, MS, January 10, 2005
- #12 Corps of Engineers Employee, Vicksburg, MS, January 11, 2005
- #13 USDA employee, Greenville, MS, January 12, 2005
- #14 US Geological Survey employee, Vicksburg, MS, January 12, 2005
- #15 USDA employee, Jackson, MS, February 7, 2005
- #16 Former Corps of Engineers Employee, Vicksburg, MS, February 8, 2005
- #17 Corps of Engineers Employee, Vicksburg, MS, February 8, 2005
- #18 US Fish and Wildlife Service employee, Vicksburg, MS, February 8, 2005
- #19 Mississippi River Levee Board employee, Greenville, MS, February 9, 2005
- #20 Former Corps of Engineers employee, Vicksburg, MS February 10, 2005
- #21 Delta resident, Rolling Fork, MS, February 10, 2005
- #22 Former USDA employee, Washington DC April 2006
- #23 USDA employee, Washington, DC April, 2006
- #24 USDA employee, Washington, DC April, 2006
- #25 USDA employee, Washington, DC April, 2006
- #26 USDA employee, Washington, DC April, 2006
- #27 USDA employee, Washington, DC April, 2006
- #28 USDA employee, Washington, DC April, 2006
- #29 USDA employee, Washington, DC April, 2006
- #30 USDA employee, Washington, DC April, 2006
- #31 USDA employee, Washington, DC April, 2006
- #32 Corps of Engineers Employee, Washington, DC April, 2006
- #33 Corps of Engineers Employee, Washington, DC April, 2006
- #34 Former Corps of Engineers Employee, Washington, DC April, 2006
- #35 Former USDA employee, Washington, DC April, 2006
- #36 Former Corps of Engineers Employee, Washington, DC April, 2006
- #37 Corps of Engineers Employee, Washington, DC April, 2006
- #38 Agricultural Economist, Washington, DC April, 2006
- #39 Staff to Senate Agriculture Committee, Washington DC April, 2006
- #40 US Fish and Wildlife Service employee, Vicksburg, MS May 26, 2006 (by telephone)

- #41 Delta farmer, Rolling Fork, MS, July 21, 2006
- #42 Conservation group staff, Stoneville, MS July 19, 2006
- #43 Agricultural interest group staff, Stoneville, MS July 19, 2006
- #44 Delta farmer, Greenville, MS, July 20, 2006
- #45 Delta farmer, Rolling Fork, MS, July 20, 2006
- #46 Delta resident, Rolling Fork, MS, July 21, 2006
- #47 Delta resident, Greenville, MS, July 21, 2006
- #48 Delta farmer, Yazoo City, MS July 22, 2006
- #49 Delta resident, Rolling Fork, MS, April 18, 2007
- #50 Delta farmer, Carey, MS, April 19, 2007
- #51 Conservation group staff, Jackson, MS, April 19, 2007
- #52 US Fish and Wildlife Employee, Jackson, MS, April 20, 2007
- #53 Environmental Group Staff, Jackson, MS, April 20, 2007
- #54 Former delta resident, Bolton, MS, April 21, 2007
- #55 Yazoo Delta Levee Board employee, Jackson, MS, April 21, 2007
- #56 Environmental Group Staff, Washington, DC (conducted by phone)
- #57 Environmental Group Staff, San Francisco, CA, (conducted by phone)
- #58 Environmental Group Staff, Jackson, MS, May 20, 2007 (conducted by phone)
- #59 Environmental Group Staff, Jackson, MS, May 25, 2007 (conducted by phone)
- #60 Environmental Group Staff, Jackson, MS, May 31, 2007 (conducted by phone)
- #61 Environmental Group Staff, Washington, DC June 2, 2007 (conducted by phone)