

## ABSTRACT

HALL, JESSE SHAIN. *Perpetual Improvement: A Potomac Environmental Story*. (Under the direction of Matthew Booker.)

On February 8, 1965, President Lyndon B. Johnson ordered the restoration of the Potomac River, asserting a landscape so “rich in history and memory which flows by our nation’s capital should serve as a model of scenic and recreation values for the entire country.” This work excavates how the Potomac transitioned from a place of work to one of recreation and in need of restoration by the 1960s. Within this transition, recreation became tied to restoration, shaping the values, costs, and assumptions inherent in such a process.<sup>1</sup>

*Perpetual Improvement: A Potomac Environmental Story* begins by investigating the characteristics that made the Potomac a productive landscape for Native Americans, European settlers, and Americans. The landscape transitioned from a managed environment that suited Native American societies to an intensively cultivated patchwork of farms and plantations meant for agricultural export and profit by the Civil War. Within this alteration, the seeds of change took root and laid the foundation for future environmental concerns. The second chapter examines the rise of industry in the Potomac tidewater after the Civil War. Simultaneously, the Civil War and growing Washington society also gave rise to national symbolism and romantic rhetoric that instilled meaning to the river’s water. The river was a highway that brought city and country together while serving as a larger national metaphor. Chapter three follows the development of metropolitan Washington at the turn of the century as it grappled with the consequences of growth and urbanization. With urban sprawl, environmental concerns became visibly evident and impossible to ignore. Finally, chapter

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<sup>1</sup> Lyndon B. Johnson, "Special Message to the Congress on Conservation and Restoration of Natural Beauty, February 8, 1965," "The American Presidency Project," <http://www.presidency.ucsb.edu/ws/?pid=27285> (accessed March 31, 2014).

four follows the transformation of the Potomac from a place of work to a place of white, middle-class play in both the landscape and the minds of Americans. The river's value changed from the resources in it to the scenery and land along the shores as a growing Washington consumed the landscape. Visitors exerted a growing influence on policy and projects as they supported restoration and brought new environmental perceptions.

The Potomac's role as a place of play usurped competing values and, in turn, shaped future policies and projects, inextricably linking recreation and restoration. Middle-class weekenders and retirees replaced locals, watermen, and farmers along the river's edge, voicing a vested interest in the health and restoration of the Potomac and overshadowing competing interests in the region. Their voice gave root to the idea of a golden age in restoration goals. Yet, that recreational voice is one-sided, often overwhelming the hopes, dreams, and values of those that once lived along the shores—restoration changes the knowledge and composition of the shore as much as it changes the river's habitats. Despite the focus on ecological health, restoration is anthropocentric management of another sort, producing environmental and social consequences just like the “improvement” projects of the past. By ignoring more than 400 years of land use and social change, Americans are mired in a process of perpetual improvement, striving for the ideal environment without addressing root causes of environmental change. Better understanding the process of restoration and the fleeting wants of the past will help direct how to proceed in the future—what species we save, what policies we pursue, and the choices we make for generations to come.

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Perpetual Improvement: A Potomac Environmental Story

by  
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A thesis submitted to the Graduate Faculty of  
North Carolina State University  
in partial fulfillment of the  
requirements for the Degree of  
Master of Arts

History

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## **DEDICATION**

To Graham and the memory of Annie Hall, as the foundation for my historical curiosity and love of the Potomac River.

## **BIOGRAPHY**

Growing up in Arlington and Montross, Virginia shaped much of what follows in this document. The Potomac waters that flow past the nation's capital shaped my weekdays growing up in the suburbs and weekends in the rural tidewater. I know each creek, cove, and marsh of Currioman Bay from my adventures as a boy, and proposed to my wife, Jenna, on what remains of Hollis Marsh. For all the changes and deviations in life, the Potomac persists as a constant for time with family, friends, and loved ones in a way that is impossible to capture in words.

After graduating from the University of North Carolina at Chapel Hill with a degree in Journalism and Mass Communication in 2008, I spent four years in advertising before leaving to pursue a history degree at North Carolina State University. An American environmental history course with Professor Matthew Booker and experience growing up in northern Virginia set me on a course to study the Potomac environment and the social and cultural idiosyncrasies that have surrounded it for ages. What follows after school, I do not know, but am thankful for the friendships, opportunities, and skills I learned along the way.

## ACKNOWLEDGMENTS

For someone like me, a thesis has the potential to be an academic train wreck. Thankfully, I could ask for no better advisor than Professor Matthew Booker, who generously offered his time, direction, and patience to help mitigate against that fiery possibility. His hard work and guidance pushed me through the trials and tribulations that inevitably plague an apprehensive, historian-in-training—and for that—much is owed. In addition, Professor Gary Blank deserves special recognition. His seminars and classes on ecological history and environmental impact shaped much of my thinking about unintended consequences and the fleeting nature of social value. Environmental historians perform a unique balancing act between history and the natural sciences, and as a graduate student, this thesis might not have happened without his perspective and support. Any acknowledgments for this work would be incomplete without citing the influence and guidance of Professor Katherine Mellen Charron, whose curiosity and passion for history and people is infectious. Her willingness to spend time on the work of others is both selfless and invaluable, driving students to aim higher in their intellectual pursuits. These three deserve special acknowledgment for their hard work, excellent scholarship, and influence on the lives and work of graduate students.

Any success or ability of a graduate student stems from the work of past professors and courses. I am indebted to Professor Ross Bassett, who challenged my conceptions of American technology and shaped much of my thought about transportation in this work. Both Professor Craig Friend and Professor Megan Cherry generously took time during, and after, class to help me understand what it means to write like a historian. For someone without

prior historical writing experience, any progress I made is largely indebted to them and any scholarly shortcomings that still persist are a tribute to the stubbornness and denseness of the author. Finally, the hard work of Professor Susanna Lee and Professor William Kimler deserve special recognition as irreplaceable resources and guides through graduate school. Any teaching experience or funding I received is directly attributable to their consideration and tutelage. To all, much is owed and will, hopefully, one day be returned.

Uncovering the Potomac's story relied on the time, resources, and accumulated knowledge of several individuals and their organizations. Mitzi Saffos at the Colonial Beach Museum and Historical Society proved a treasure trove of information and resources. Likewise, Bill Barker and Tom Moore of The Mariners' Museum in Newport News, Virginia offered time and assistance in the search for sources. The employees and volunteers of the Westmoreland County Museum Library and the Northern Neck of Virginia Historical Society also deserve credit as incredible guides in the often-overwhelming task of combing through archives and collections. Lastly, the generous spirit of Millard "Bunny B" Bryant made this thesis possible. By taking the time to sit and talk, he contributed an overwhelming amount of insight and experience to the thought and writing process. His generosity in life has been a blessing to those around him. Without the know-how and knowledge of these various individuals and organizations, the writing of this thesis would have been exceedingly difficult, if not impossible.

Encouragement, empathy, and accountability are significant aspects of the graduate school experience. Stacy Roberts and Kelsey Zavelo stand out as generous with both their time and skills. The long meetings of our writing group, while sometimes painful, functioned

as a significant source for the writing and framing of my work. Their enthusiasm for editing and reading the work of others merits respect and completed my graduate experience. Your futures are bright and I wish you the absolute best in your upcoming academic adventures.

Finally, graduate school is a process that requires the support and understanding of family and friends. Thank you to Grandma Annie and Grandpa Graham, who always supported my interests and fostered a love of learning. In addition, thanks to my parents for their encouragement in furthering my education, especially in the face of all sound fiscal advice and judgment. To all my friends, thank you for the patience and understanding of my absence over this past year. But more than anyone, I owe special praise and recognition to my wife Jenna who helped me through this entire process. Unfortunately, as the foundation of my support, you also bore the brunt of frustration, exhaustion, and irritation. This work and education is as much yours as it is mine. Thank you for everything.

A document is never truly finished and this work is no exception. It is an imperfect reflection of my academic experience and ability. Yet, there comes a time when everything must be turned in. Like all writers before me, all errors, mistakes, or failings are the product of my own shortcomings and any success belongs to those acknowledged above.

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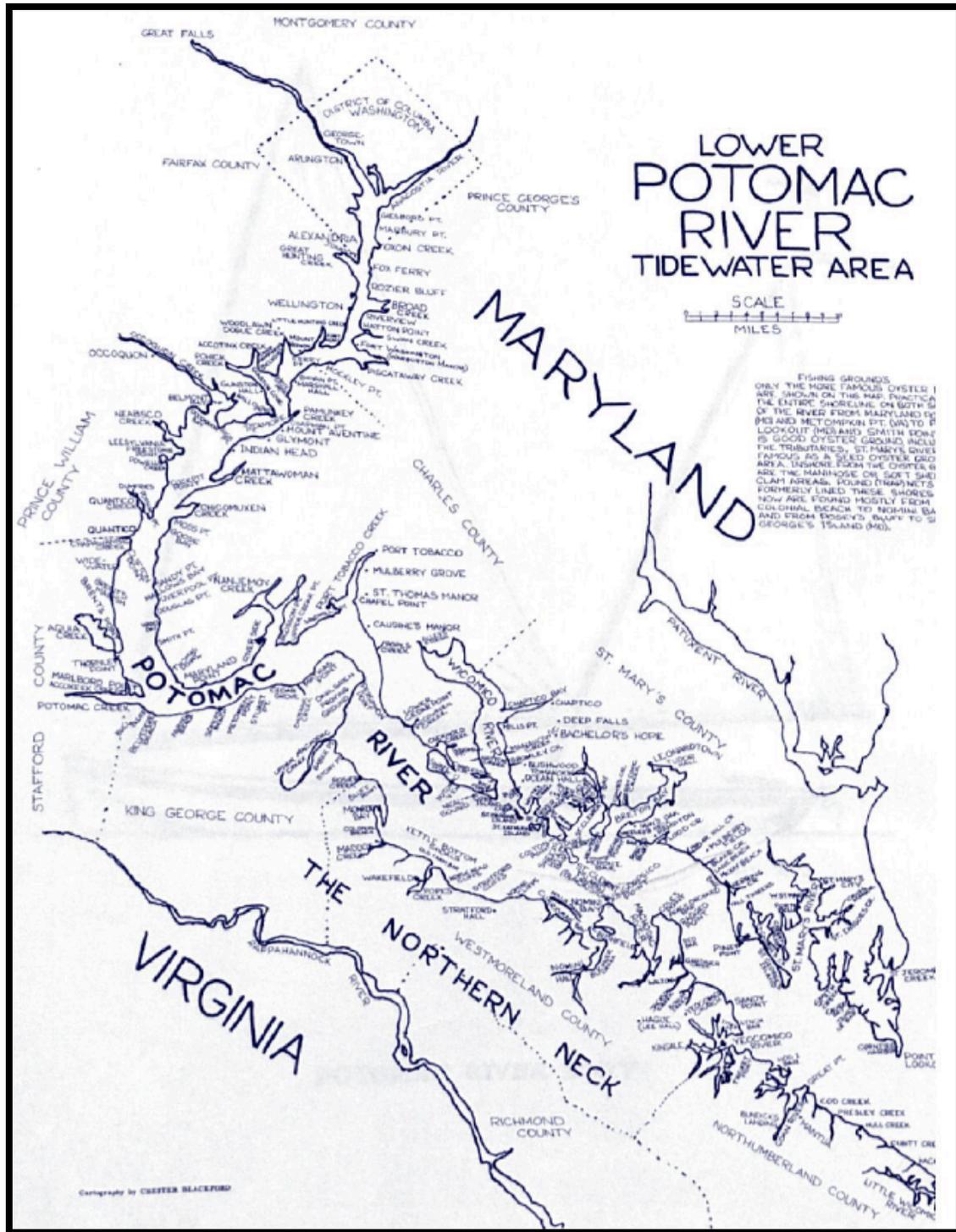


Figure 1. Map of the Tidewater Potomac River. Edwin W. Beitzell, *Life on the Potomac River* (Bowie, MD: Heritage Books, 1968), inside front cover.

## INTRODUCTION

The shimmering water laps against the sand of the quiet beach in the afternoon sun, as a gentle wind pushes its way up a rippling, winding tidal creek. Passing a raft of restless ducks, the breeze rustles the marsh grasses and guarded homes of the muskrat and beaver, blowing through the ash, gum, alder, and birch trees that call the edge of the marsh home. Leaving the beautiful confines of the creek, the wind travels uphill and over a ridge into the shade of immense oak, chestnut, and elm trees mingling with stands of pine, hemlock, and hickory, content with shielding the forest floor from the sunlight and summer rains. Winding through the sentinels of the forest, boisterous pigeons and parakeets usher on the gust from their perches among the cathedral ceiling. Squirrels and turkeys forage amid the forest floor, keenly alert for the mischief of the fox and wolf. The breeze moves on to a clearing, unveiling a long wooden home, still but for the smoke arising from the roof, rustling corn stalks, and children playing along the forest edge. Moving on, the wind brushes past a hunter in skins with a doe across his back, as the pine needles along the trail crackle to his march. The gust finally descends the contours of a low ridge and the oft-used trail of the deer and black bear to the head of another creek, skimming the soft fronds of the wood and cinnamon ferns as it travels. Following the slow curves of the creek, the breeze overtakes the outgoing tide as it dissipates into another headwind.

The tide continues on unaware of the wind's fate, skirting above the crab, perch, and eels that travel the bottom of the tidal creek. Thrust out through the mouth of the creek, the tide surges over a vast oyster reef stretching out into the cove, quickening its pace as the water squeezes past the living obstruction. Now in the open, the tide slows to a crawl over

the sea grasses along the bottom, intermittently revealing the stingrays and flounder hiding in the dance of the waving plants and beams of sunlight. A sturgeon moves overhead, a confident leviathan in the tide's midst. Traveling on, the tide braves the open water coming upon a school of menhaden violently breaking the surface, evading the insatiable rockfish, mackerel, and bluefish. All the while, the osprey and bald eagle gaze upon the commotion, eager to get their fill. Past the shimmering school, the tide pushes on as the river waves tickle the clear surface, easing around the bow of a wooden ship, new to both the tide and the wind, as it continues on to the river's mouth and the next tidal cycle begins.<sup>1</sup>

Such a Potomac River landscape feels good to imagine, a place pristine and untouched by destructive human use, industry, and greed. It is a landscape that rivals the world's most beautiful scene on canvas. The image brings forth a longing for an age that has passed—a simpler time. In comparison, the Potomac we see feels gray, bleak, and diminished. If only we could return to the afternoon John Smith first sailed the Potomac, before Western civilization tarnished the shoreline. This is a problem. Such a vision implies that an ideal landscape can only be attained apart from modern society. Unfortunately, such an ideal rests outside of reality and fails to grapple with the challenges and complexities of living within a river's watershed. Yet, this longing for a golden age permeates contemporary

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<sup>1</sup> Using early European narratives, I reconstructed a pristine vision of a moment in time in the past Potomac landscape. For primary descriptions, see Captaine John Smith, *A Map of Virginia: With a Description of the Countrey, the Commodities, People, Government and Religion* (New York: Da Capo Press, Inc., 1973), 5-30; For scientific support and documentation of past flora and fauna highlighted in the description, please see Grace S. Brush, "Forests Before and After the Colonial Encounter," in *Discovering the Chesapeake: The History of an Ecosystem*, eds. Philip D. Curtin, Grace S. Brush, and George W. Fisher (Baltimore: Johns Hopkins University Press, 2001), 50-58.

restoration advocates, agencies, and constituents, ranging from implicit to explicit in vision. The *2012 State of the Bay Report* produced by the Chesapeake Bay Foundation goes as far as saying, “We measure the current state of the Bay against the healthiest Chesapeake we can describe—the Bay Captain John Smith depicted in his exploration narratives from the early 1600s, a theoretical 100.”<sup>2</sup> A pre-European river is the ideal river. This assumes a benign Native American presence—or even no human history at all—and produces a narrative of declension ever since John Smith sailed up the river. Basing the health of a modern landscape on a romantic past dangerously ignores social, cultural, political, and environmental changes over the past four centuries. To suppose the Potomac has a “healthiest” state assumes a level of stability that no landscape enjoys and implies that a completely healthy environment is only possible in the absence of modern society. That is a dangerous implication.<sup>3</sup>

But a golden age does not just obscure the Potomac’s story in a shroud of declension, it sheds light on the ever-shifting wants of society. For centuries, colonists and Americans concentrated on “improvement” of the environment, by deepening and straightening channels, taming the forests for agriculture, and reshaping it to answer specific needs. Society sought to manage the landscape. But society changes, as does the environment. The

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<sup>2</sup> Chesapeake Bay Foundation, *2012 State of the Bay Report* (Washington, DC: Chesapeake Bay Foundation, 2012), 20.

<sup>3</sup> The work of William Cronon and Richard White heavily influenced the thinking and direction of this thesis, particularly thoughts about “wilderness” and “work” in relation to environmentalism, see William Cronon, “The Trouble with Wilderness; or, Getting Back to the Wrong Nature,” in *Uncommon Ground: Rethinking the Human Place in Nature*, ed. William Cronon (New York: W. W. Norton & Company, 1996), 69-90; Richard White, ““Are You an Environmentalist or Do You Work for a Living?": Work and Nature,” in *Uncommon Ground: Rethinking the Human Place in Nature*, ed. William Cronon (New York: W. W. Norton & Company, 1996), 171-185.

improvement of one century is the bane of the next, as subsequent generations struggle with the results and consequences of earlier decisions. Why is it, that over the past four centuries, colonists and Americans never seemed satisfied with the state of the river? There are certainly concrete and serious problems with the Potomac. The result of centuries of land use and urbanization deserve close attention, support, and solutions. At the same time, however, the goal of many is not only to address environmental issues, but also to restore the landscape to a golden ideal. Up until the early twentieth century, American society wanted a managed, useful river that could be kept by engineers and scientists. Slowly, but surely, this changed. By the mid-twentieth century, Americans looked backward as the term “restoration” came into use in the 1960s and 1970s (see figure 2). Restore? To when and where, one might ask. Leaders and organizations had to define the terms of restoration. This change coincided with the most dramatic and serious environmental consequences the river had ever faced in the form of massive fish kills, beach closings, and incredible toxicity reports. And yet, restoration is far more complicated than a response to serious environmental change—change had happened before. Restoration, was, and is, another form of landscape valuing and management, just like an individual who sees trees as lumber, oysters as capital, or menhaden as oil. Restoration is another way of assigning value in nature. The fleeting values of society and the dynamic landscape created an American obsession with improvement as social wants could never balance with the current state of the environment. Restoration is management of another sort, where man must save the landscape, restoring it to a previous glory. Americans, in many landscapes, are stuck in a vicious cycle of perpetual improvement.

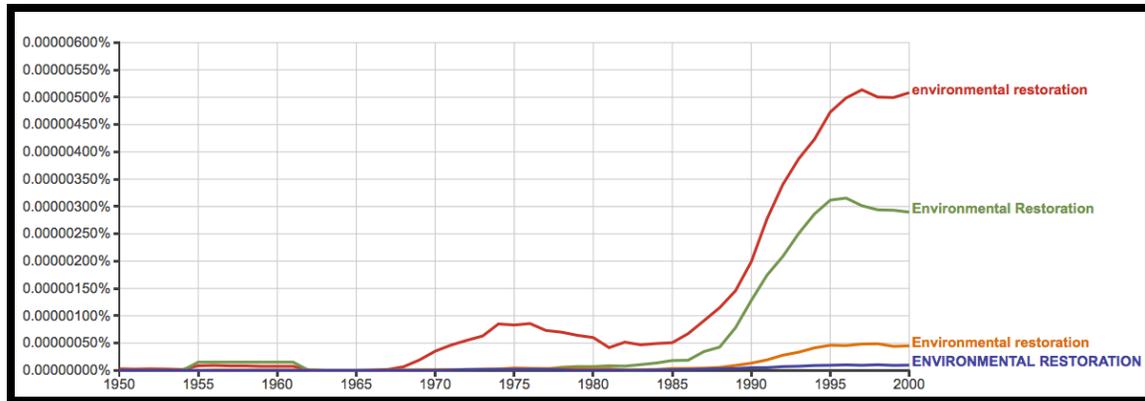


Figure 2. The term “environmental restoration” arose during the 1960s but accelerated sharply as a common term after 1985. Data and image courtesy of Google Books Ngram Viewer, see Jean-Baptiste Michel et al, *Quantitative Analysis of Culture Using Millions of Digitized Books*. Science (12/16/2010).

By examining past shorelines, environmental historians help demonstrate these fleeting values within a landscape—or the wants of individuals, groups, and society—as well as the resulting struggles with unintended consequences. The history of the Potomac complicates such social perceptions of environmental health and the golden ideals within restoration. By excavating how the Potomac land and waterscape changed since the Civil War, this work intends to explain the physical and social transitions of the river to explore why the goal of many environmentalists is a pre-European past. A closer examination reveals a past that is not so clearly defined, not so delineated by decline, and subject to perpetually changing values. The Potomac shoreline experienced a series of transitions, from a place of intensive Native American management, to a site of economic importance and agricultural export, to a complex landscape of work, national symbolism, and recreation in the early twentieth century, before finally becoming an environment in need of restoration and

designated for recreation by 1965. Increasingly beset with growing water quality issues in the 1930s, the environmental problems of the Potomac undercut its symbolic importance, while declining resources weakened the river's material value as a place of commercial fishing and harvesting. After decades of environmental flux, coupled with a growing environmental movement and need for recreational outlets in Washington, the Potomac's role as a place of play usurped competing values. By the mid-twentieth century, a growing class of second homeowners and retirees brought with them new environmental perceptions that laid the foundation for current restoration projects. These newcomers had a vested interest in supporting agencies like the Chesapeake Bay Foundation that arose in the late 1960s and, in turn, provided a base for ideals of a Potomac golden age. Recreation spurred on the golden ideals and values that currently support restoration projects in the Chesapeake Bay.

The goal of this work is not to criticize the effort of environmentalists, weekenders, organizations, or locals who strive toward a better future or enjoy the beauty of the river. I neither intend this thesis as a diatribe against recreation and middle-class weekenders, nor a nostalgic characterization of a past working landscape. Recreation, in cooperation with government agencies and non-profits, has fostered incredible support for restoration efforts since the 1960s, making leaps in environmental health and public awareness. Farming, oystering, and fishing, on the other hand, has been responsible for some of the worst ecological crises of the past centuries. Distilling the dynamics of the Potomac into a thesis also risks creating a declension narrative that oversimplifies the dynamics and agents of the past. Yet, I challenge the reader to rethink the origins and definition of restoration. What are the contingencies of this story? The transition from a landscape of work to play set a course

for restoration, and inevitably, precluded other priorities and constituents in the process. How might history elucidate the process and loci of power in restoration? Restoration can pit county against city, local against weekender, and rich against poor. Class, wealth, and place in society shape what people want and how they perceive value in the landscape. But who deserves to guide the goals and criterion? These are hard questions to ask, and even harder to answer. But examining the costs and assumptions inherent in such a process may shed light on better way to include the complex values and lost voices that exist in every landscape—as well as what might have been lost in the chosen restoration path. The loss of elements like local knowledge and environmental inequality are worth considering. Environmental restoration may provide a voice for the landscape, but that voice comes from a select segment of American society.

Since the 1960s, environmental health in the United States has enjoyed a level of public popularity unparalleled in this country's past. But the story starts much earlier. The anthropocentric mindset of Americans faced increasing criticism as science advancements, biologists, and naturalists started to challenge the role of humans in nature. A. G. Tansley, a biologist from Oxford, played an instrumental role in the restructuring of the natural world by introducing the term "ecosystem." This movement reframed the environment into a working and interactive system capable of being quantified, compared, and understood in a novel way. Following World War II, ecology found an advocate in Aldo Leopold, who in 1949 published *A Sand County Almanac*. His work further pushed the thought that humans were a single piece of a larger ecological system, not the focal point or an adversary of nature. To Leopold, man was part of a complex cycle on earth, and decisions and

development should reflect that understanding through land and ecological ethics. Leopold's ethics flew in the face of prevailing utilitarian and economic prioritization methods still entrenched at the time.<sup>4</sup>

Tansley's ecology and Leopold's ethics laid the foundation for an increasingly influential environmental movement by mid-twentieth century as Rachel Carson picked up the mantle. Trained at Johns Hopkins University, she started her career publishing conservation bulletins in the Bureau of Fisheries. Many of her early scientific publications revolved around the Chesapeake Bay region. But Carson also had a unique ability to blend science and writing into accessible and popular works. Her collection of works in the 1950s, including *The Sea Around Us* and *Edge of the Sea*, popularized the significance and complexities of the shoreline and estuarine systems. Most significantly, she underlined the importance of all organisms in an ecological system and reduced humanity's self-designated meaning to the environment. Finally in 1962, two years before her untimely death from cancer, Rachel Carson published her most famous and enduring work—*Silent Spring*. Starting as a series of articles in *The New Yorker*, the immensely controversial book explored the consequences of ignoring the world around us, or forgoing a precautionary principle. It threatened the end of humanity through human action. Her work popularized the growing thoughts and conceptions of humanity's place in nature and the consequences of ignoring it.

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<sup>4</sup> Joseph V. Siry, *Marshes of the Ocean Shore: Development of an Ecological Ethic* (College Station: Texas A&M University Press, 1984), 112-125; Aldo Leopold, *A Sand County Almanac: With Essays on Conservation from Round River* (New York: Ballantine Books, 1966), 237-261.

Her work was timely as landscapes around the country displayed centuries of wear and tear—especially places like the Potomac River.<sup>5</sup>

Federal government slowly supported the growing interest in the environment. The creation of the Environmental Protection Agency and passing of the Wilderness Act, Clean Air Act, Clean Water Act, and Endangered Species Act serve as examples for the new direction of American interaction with the environment in the 1960s and early 1970s. They symbolized new perceptions while creating a mechanism for enforcement that did not exist beforehand. Problematic as they may be, these acts of policy and enforcement agencies represent a shift from an anthropocentric to a more eco-centric perspective. And located in Washington, these policies and policymakers started by targeting the river at the foot of the capital. This shift in environmental thinking coincided with the rise of recreation and aesthetic values that altered bays, rivers, and beaches across the United States in the 1960s. Such newfound enthusiasm supported a call for restoration of places like the Potomac and gave rise to environmentalism literature that supported ecological goals. Thus, the Potomac

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<sup>5</sup> For an overview of the rise of environmentalism and Rachel Carson, see Siry, *Marshes of the Ocean Shore*, 134-156; Hal K. Rothman, *The Greening of a Nation? Environmentalism in the United States Since 1945* (New York: Harcourt Brace College Publishers, 1998), 84-90. For Rachel Carson published works, see U.S. Department of the Interior, Office of the Coordinator of Fisheries, *Food from the Sea: Fish and Shellfish of New England* by Rachel Carson (Washington, DC: Government Printing Office, 1943); U.S. Department of the Interior, Office of the Coordinator of Fisheries, *Fish and Shellfish of the South Atlantic and Gulf Coasts* by Rachel Carson (Washington, DC: Government Printing Office, 1944); U.S. Department of the Interior, Office of the Coordinator of Fisheries, *Fish and Shellfish of the Middle Atlantic Coasts* by Rachel Carson (Washington, DC: Government Printing Office, 1945); U.S. Department of the Interior, Office of the Coordinator of Fisheries, *Chincoteague: A National Wildlife Refuge* by Rachel Carson (Washington, DC: Government Printing Office, 1947); Rachel Carson, *Silent Spring*, First Mariner Books Ed. (New York: Mariner Books, 2002); Rachel Carson, *The Edge of the Sea* (Boston: Houghton Mifflin Company, 1955).

traverses government reports, scientific articles, environmentalist works, and various disciplines within academia.

As environmental history emerged as a discipline in the 1960s, environmentalism subsumed elements of environmental and ecological history within rhetoric and publications. Since the 1970s, environmental history of the Potomac was framed within, and from the perspective of, environmentalism, used for situating the environment in a man-made fall from grace—a landscape in need of restoration. The landscape is undeniably ailing, but the arguments rested largely on the degrading hand of mankind, not the evolving values, societies, and structures of history that produced unintended consequences. Americans worked very hard to make the conditions that resulted in environmental problems. Popular environmentalist works like that of Tom Horton are used to tell a story within a restorative context, creating a thin line between activism and scholarship. This does not diminish the great effort of the authors and environmentalists who have spent decades fighting for the health of the Potomac and Chesapeake, but acknowledges the divide that does exist, rightly or wrongly, between popular literature and academic scholarship.<sup>6</sup>

While environmentalists within the Chesapeake have been quick to adopt environmental history as a tool, academic literature surrounding the Chesapeake Bay has been slow to follow. Historian John Wennersten, in *The Chesapeake: An Environmental*

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<sup>6</sup> For examples important environmental works, but not necessarily environmental history, see Tom Horton, *Bay Country* (Baltimore: Johns Hopkins University Press, 1987); Tom Horton and William Eichbaum, *Turning the Tide: Saving the Chesapeake Bay* (Washington, D.C.: Island Press, 1991); Howard Ernst, *Chesapeake Bay Blues: Science, Politics, and the Struggle to Save the Bay* (Lanham: Rowman & Littlefield Publishers, 2003); Howard Ernst *Fight for the Bay: Why a Dark Green Environmental Awakening Is Needed to Save the Chesapeake Bay* (Lanham: Rowman & Littlefield Publishers, 2010)

*Biography*, demonstrates the contested nature of the Chesapeake Bay and significant changes over the last two centuries, but fails to address either recreation or the individuality of each region of the Bay. Not all rivers evolved in the same way or at the same pace. There are certainly parallels that can be drawn from river to river, but much of history risks to be lost by distilling the Chesapeake down to an all-encompassing, homogenized region. Recent works like Christine Keiner's *The Oyster Question: Scientists, Watermen, and the Maryland Chesapeake* also cover an impressive temporal and spatial scope. Exploring the story of Chesapeake oysters and the watermen that depend on them, Keiner covers from the 1880s to current issues in Bay restoration. But like Wennersten, her work covers the story of Maryland's Chesapeake, largely ignoring the state to the south. The Potomac, although technically owned by Maryland, is subject to pressures from Virginians and Washingtonians that are not easily limited by state boundaries. These artificial boundaries muddled the Potomac's story and inflamed past policy, management, and resource-use decisions by both states and communities. The river's story also transcends the story of the mighty oyster. There is space for an interrogation within a narrower spatial scope of the Chesapeake Bay, while simultaneously broadening the scope of values and concerns.<sup>7</sup>

Historians have used varying timelines and methodologies in regard to the Potomac region. Works like *Nature and History in the Potomac Country: From Hunter Gatherers to the Age of Jefferson* by James Rice explore the various agricultural, social, and cultural forces at work in the Potomac up to the nineteenth century, but largely ignore the post-Civil

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<sup>7</sup> John Wennersten, *The Chesapeake: An Environmental Biography* (Baltimore: Maryland Historical Society, 2001); Christine Keiner, *The Oyster Question: Scientists, Watermen, and the Maryland Chesapeake Bay since 1880* (Athens: The University of Georgia Press, 2010).

War landscape. Such work leaves out the industrialization and urbanization of the river. *Discovering the Chesapeake: The History of an Ecosystem* by Philip Curtin, Grace Brush, and George Fisher offers a wide expanse of interdisciplinary content and scientific methodology. The work incorporates articles from historians, zoologists, biologists, anthropologists, climatologists, botanists and geographers to describe the landscape's past and illustrate the resulting consequences. Two problems arise in such a technique, however: the long-term evolution of the cultural meaning behind the river, and the power of the human story get lost. The articles provide snapshots of various moments in Chesapeake history, but they fail to deliver the continuity of meanings and values instilled by past inhabitants. In addition, *Discovering the Chesapeake* largely ignores changes in the twentieth century like that of recreation that incurred great environmental and social change. These works, while incredible resources, leave room for an environmental and cultural investigation of the Potomac in the late nineteenth and twentieth centuries.<sup>8</sup>

The Potomac is incorporated into both academic and popular works, bridging historical disciplines and what might be called "tour-guide" literature. John Smith provided one of the earliest European accounts in describing the region. It is the birthplace of presidents George Washington, James Madison, and James Monroe, and Revolutionary War legends Francis Lightfoot Lee and Richard Henry Lee, as well as the Civil War General Robert E. Lee. It is the boundary between the North and the South and the river that flows

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<sup>8</sup> For an environmental history on the pre-Civil War Potomac, see James D. Rice, *Nature and History in the Potomac Country: From Hunter Gatherers to the Age of Jefferson* (Baltimore: Johns Hopkins University Press, 2009). For an interdisciplinary work, see Philip Curtin, Grace Brush, and George Fisher, eds. *Discovering the Chesapeake: The History of an Ecosystem* (Baltimore: Johns Hopkins University Press, 2001).

through the nation's capital. The river is tied to the storied, historical importance of Washington, D.C. and the nation it governs during war and peacetime. Suffice it to say, the river's narrative crosses historical disciplines, boundaries, and limits. It can be found in historical biographies, Civil War narratives, government works, and touring literature for the capital. This work purposefully avoids many of these well-worn territories, looking past the famous figures, war stories, and ideological prose to the landscape on which all these stories took place. Yet, at the same time, the Potomac's significance in such a broad swath of historical literature appears to have left a gap where environmental historians have yet to explore the changing material and cultural values within a landscape like the Potomac.<sup>9</sup>

If restoration is a process that reflects values of the surrounding society, like recreation, then an exploration of American environmental values and management is necessary in order to grasp the Potomac's evolution. Environmental historians have examined changing environmental values since the field's rise in the late 1960s, looking for the roots of conservation and preservation thought. Roderick Nash, in the *Wilderness & The American Mind*, examines the evolving definition of wilderness and conservation in the United States from the perspective of elites like Henry David Thoreau, John Muir, and Theodore Roosevelt. Transitioning from a fear of wilderness to enthusiasm about the wild,

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<sup>9</sup> For "tour-guide literature," see Arnout Hyde, Jr., *The Potomac: A Nation's River* (Charleston, WV: Cannon Graphics, 1994); Robert Kapsch, *The Potomac Canal: George Washington and the Waterway West* (Morgantown, WV: West Virginia University Press, 2007); Paul Metcalf, *Waters of Potowmack* (Charlottesville: University of Virginia Press, 2002); Garrett Peck, *The Potomac River: A History and Guide* (Charleston, SC: History Press, 2012); Richard Stanton, *Potomac Journey: Fairfax Stone to Tidewater* (Washington: Smithsonian Institution Press, 1993); Frederick Tilp, *This was Potomac River* (Bladensburg, MD: Tilp, 1978).

Americans' perception of wilderness underwent a significant change in the late nineteenth century. Nash argues that a series of cultural shifts occurred in American thinking about environmental values. He suggests that in the 1960s, American perception shifted from a "shallow utilitarianism" to a "deep non-anthropocentric" mindset in conservation, where the ecosystem, not man, was the focus. With the rise of the urban environment, nonmaterial values like outdoor recreation became increasingly important, suggesting that Americans could love the environment to death. This shift is evident in the mid-twentieth century Potomac as restoration rose to the surface in the 1960s. But his argument fails to address the values of small communities and individuals that depend on natural resources for their livelihood. He places too much emphasis on the evolving cultural values of the political elite and downplays the power of the material.<sup>10</sup>

Joseph Siry takes a similar approach in *Marshes of the Ocean Shore: Development of an Ecological Ethic*, but focuses on the shoreline. Siry's book demonstrates the evolving social and cultural values of marshes and wetlands in American society. He outlines the shoreline from a place of death and disease to a fixture in the Romanticism of the late nineteenth century. Out of those ideological roots, the book examines the shift of policy and projects from an anthropocentric to an ecological perspective. The rise of scientific understanding and a new ethic in the mid twentieth century questioned the construction of "improvement" projects and ushered in a new significance for wetlands. Cultural value of landscapes play a significant role in how they are used, exploited, and protected. Historians

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<sup>10</sup> Roderick Frazier Nash, *Wilderness & The American Mind*, 4th ed. (New Haven: Yale University Press, 2001), xi, 180-205, 225-235, 257, 325.

play the unique role of illuminating the social and cultural issues behind *why* humans change them in the first place. The Potomac is a place of two worlds—both urban and rural. These two works provide convincing arguments for the cultural shift of American society, but the flipside is material value and dependence.<sup>11</sup>

Environmental historian Richard Judd, in *Common Lands, Common People*, resituates the drive for resource conservation and preservation. He emphasizes material value at the community level by examining local and traditional values in the development of resource management and environmental policy in nineteenth century New England. Judd argues that common New Englanders had to reconcile their use of finite resources and rethink their idea of common property in order to establish a foundation for future conservation principles. The material and utilitarian value of environmental resources drove the development of conservation laws and practices. He also complicates the preconception that the elite and wealthy spurred conservation and responsible-use. To Judd, material values prompted responsible environmental interaction, originating with the local communities that depended on physical resources. This material value is inextricable from the Potomac's story, serving to counter the metropolitan environmental values that increasingly infiltrated the countryside in the twentieth century.<sup>12</sup>

But the perspectives of Nash, Siry, and Judd fail to encompass wholly the complexity of the interactions between Americans and the environment. Richard White, in *The Organic Machine*, complicates the cultural-material value dynamic, framing the Columbia River as a

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<sup>11</sup> Siry, *Marshes of the Ocean Shore*, 1-18, 188-191.

<sup>12</sup> Richard Judd, *Common Lands, Common People: The Origin of Conservation in Northern New England* (Cambridge: Harvard University Press, 1997), 1-14, 263-266.

mixture of biological, potential, and human energy. White argues that a river's history blurred the boundaries between natural and unnatural. His story spans the settlement of the river, evolution of the fishing industry, building of hydroelectric dams, and the cultural value of salmon that merged to shape the river. The result was a story of labor, human value, and an altered existence—familiar, yet foreign. His work removed the boundaries between people and nature, creating a river that was both built and natural, influenced by past choices. Like the Potomac, the Columbia River is neither a result of wholly material nor cultural concerns, but a mixture of the two, created by the interests of both the elite and common American. But White's Columbia lacks the ideological significance of the Potomac. For some, the Potomac carried the hope of a nation and embodied a potential for glory.<sup>13</sup>

Nash, Siry, Judd, and White each addresses environmental value from a different perspective, capturing a shifting dynamic in separate regions and environments and successfully establishing a nationwide shift in thinking. But the Potomac needs a framework that encompasses both an urban-rural, elite-local dynamics, as the city and country fed the forces that changed the river. In addition, none of the authors dealt with an environment that resides at the foot of the national capital. National symbolism, work, and play all mixed to become a unique and complex environment that escapes easy definition or characterization.

Work surrounding the Potomac must not only look at the manifestation and evolution of environmental value and resulting development, but also the body of work encompassing shoreline landscapes. Many environmental history narratives concentrate on the American

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<sup>13</sup> Richard White, *The Organic Machine: The Remaking of the Columbia River* (New York: Hill and Wang, 1995), 108-113.

West where the effects of a growing, industrial society are most evident. The evidence and consequences of an industrial, capitalist economy can be easier read in the old stumps, scarred mountains, and dammed rivers of the West rather than the more developed eastern coastline. Richard White's *Land Use, Environment, and Social Change: The Shaping of Island County, Washington* and Arthur McEvoy's *The Fisherman's Problem: Ecology and Law in the California Fisheries* paved the way for more recent scholarship. White traces a transition from a managed landscape of Native Americans, to a landscape of intensive agriculture and lumber, before shifting to a place of recreation. McEvoy, on the other hand, presents a comprehensive overview of California's fisheries from indigenous societies to overfishing and the resulting policy and conservation of the 1970s. Both works provide fundamental and different methods of dissecting a coastal region. White's rest on cultural and social changes, while McEvoy focuses on law and economics.<sup>14</sup>

These two works prompted a new generation of authors to examine both the transition of landscapes as society evolves as well as the resulting environmental consequences. Lissa Wadewitz does so in a recent work that explores the unnatural development of man-made boundaries and resulting cultural and social tensions in *The Nature of Borders: Salmon, Boundaries, and Bandits on the Salish Sea*. Likewise, Connie Chiang interrogates the growth of the Monterey Bay, California fishing industry alongside the development of tourism on the shore in her work, *Shaping the Shoreline: Fisheries and Tourism on the Monterey Coast*.

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<sup>14</sup> Richard White, *Land Use, Environment, and Social Change: The Shaping of Island County, Washington* 3rd ed. (Seattle: University of Washington Press, 1999); Arthur McEvoy, *The Fisherman's Problem: Ecology and Law in the California Fisheries, 1850-1980* (Cambridge: Cambridge University Press, 1986).

Moving from the origins of the fishery to the development of fishing technology and the sardine fishery, Chiang demonstrates the fishery's decline against the rise of tourism with the Monterey Bay Aquarium. Matthew Klingle and Matthew Booker, however, take a slightly different approach by investigating the stories of two significant western, coastal cities. Klingle, in *Emerald City: An Environmental Story*, uncovers the social, cultural, and environmental costs of literally raising Seattle from the waters of Puget Sound and Lake Washington. Booker's *Down by the Bay: San Francisco's History between the Tides* charts the growth of San Francisco from the marshes, the taming of the great inland delta, and rise of the oyster and salt industries up to the twentieth century calls for restoration. Each story speaks to the expectations and desires of the people that lined the shoreline. This diverse and abundant collection of work gets to the heart of changing shoreline landscapes and the societies along the West Coast.<sup>15</sup>

But environmental histories of the Eastern seaboard have been slow to follow. Tom Andersen's work on the Long Island Sound, *This Fine Piece of Water: An Environmental History of Long Island Sound*, constructs a story of population increase, industrialization, and overfishing. Like the stories in the West, this story shares many themes and grapples with a tension of learning to live within the limits of an environment. These environmental limits create tensions within society and culture, like businesses and grassroots organizations,

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<sup>15</sup> Lissa K. Wadewitz, *The Nature of Borders: Salmon, Boundaries, and Bandits on the Salish Sea* (Seattle: University of Washington Press, 2012); Connie Chiang, *Shaping the Shoreline: Fisheries and Tourism on the Monterey Coast* (Seattle: University of Washington Press, 2008); Matthew Klingle, *Emerald City: An Environmental History of Seattle* (New Haven: Yale University Press, 2007); Matthew Morse Booker, *Down by the Bay: San Francisco's History between the Tides* (Berkeley: University of California Press, 2013).

which must learn to work together in order to solve environmental issues. Matthew McKenzie's work, *Clearing the Coastline: The Nineteenth-Century Ecological & Cultural Transformation of Cape Cod*, also challenges the simplistic notion of decline by demonstrating the complex interplay of factors like local knowledge, new technology, and culture along the Cape Cod shore. These two works certainly add to the work done on the West Coast, but the East Coast academic cupboard remains largely bare. Many shorelines of the East Coast are weathered with time and changes are more difficult to delineate—but many stories of rivers, bays, and tidewater cities remain to be told. In regard to the Potomac, little of environmental history touches on the body of water or the city of Washington. That work remains to be done.<sup>16</sup>

And when examining a specific environment, like the Potomac, Seattle, San Francisco, or Cape Cod, the story of a landscape is inseparably linked to the transportation infrastructure, or lack thereof, within a region. Transportation bridges the divide between city and country. Examining Chicago's rise to power and the subsequent hinterlands that grew to accommodate the city's needs and demands, William Cronon set the standard in *Nature's Metropolis*. He links urban and rural communities together through the railroad, noting that a city cannot grow isolated from the landscape around it. In Chicago, the railroad made the rural-urban relationship possible, by changing time and space, opening up new markets, and providing capacity for increased scale and efficiency. Cronon does a masterful job

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<sup>16</sup> Matthew McKenzie, *Clearing the Coastline: The Nineteenth-Century Ecological & Cultural Transformation of Cape Cod* (Hanover: University Press of New England, 2010); Tom Andersen, *This Fine Piece of Water: An Environmental History of Long Island Sound* (New Haven: Yale University Press, 2002).

demonstrating urban growth and the resulting rural consequences, while highlighting technologies that accelerated growth. But his work examines one of the nation's largest cities with a hinterland that encompasses almost half the country. In his narrative, the development of rural regions is only in response to urban needs, but the nuances of infrastructure growth are far more complicated than Cronon demonstrates. Rural regions are subject to their own unique environmental, social, and cultural characteristics. Cronon shows the top-down picture of a high-profile city, but fails to give agency to the rural landscape or the place-shaping power of geographic elements like rivers. The Potomac River was the highway that connected, shaped, and influenced the region for more than three centuries, indelibly leaving its mark in the present. For much of its history both the city and country revolved around Potomac waters. All roads led to the river.<sup>17</sup>

Restoration towards a future modeled on a romantic, pristine past sounds tempting but, at the core, the plan fails to deal with the realities and underlying issues of society's environmental problems. Or how inhabitants valued the landscape differently in 1600 than do the Washingtonians, Virginians, and Marylanders of 2014. The purpose of this work is to examine how four hundred years of change has altered the tidewater Potomac land and waterscape from a place of life and work to a place of play and recreation—and what that means. To do so, this work limits the geographic scope to the tidewater Potomac, which runs from the Potomac Falls just west of Washington to its confluence with the Chesapeake Bay.

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<sup>17</sup> William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W. W. Norton & Company, Ltd., 1991).

The tidewater and the headwaters differ greatly in physical geography, industry, and population to such an extent that work on the entire river risks homogenization of the diverse landscape. This work focuses strictly on the tidewater and Washington waterfront. It is through places like the tidewater where Americans must decide what they want from the surrounding landscape, without narrowly defining a measure of environmental success. Americans cannot separate a landscape from the realities of life or the consequences of modern human interaction no matter how noble the goal. Measuring success against an environment of a different time fails to grapple with larger issues, like how a population of millions can live sustainably in a river's watershed, or how Americans can pursue an idyllic standard without sacrificing the houses, boats, and cars that enable us to access the river.<sup>18</sup>

Americans tell stories that move through the countryside, crossing time and space, weaving their way through cities, cliffs, and creeks, imparting a landscape and river with value unique to each story. At the same time, human memory, judgment, and motive prove problematic in examining a landscape like the Potomac, providing human emotion and subjective notions without objective observance. This work marries human stories in books, articles, reports, journals, newspapers, and speeches with scientific reports, analysis, and observations. Just as each river lacks an individual story, the human narrative of the Potomac is often overshadowed by interdisciplinary and scientific work centered on restoration. Environmental historians can breathe new life into landscapes by examining past stories, just as William Cronon noted in 1992. Cronon argued that by organizing events into “causal

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<sup>18</sup> Chesapeake Bay Foundation, *2012 State of the Bay Report*, 20; Cronon, “The Trouble with Wilderness,” 69-90; White, ““Are You an Environmentalist or Do You Work for a Living?”” 171-185.

sequences,” historians give them unity and meaning. Writers create stories with “unity that neither nature nor the past possesses so clearly.” Like historians, people provide perspectives about past landscapes like the Potomac, awarding voice and value, creating distinct stories and a window into their interests. This work combines the subjective and objective elements that make the tidewater Potomac what it is today.<sup>19</sup>

The first chapter focuses on the geological, physical, and biological characteristics that made the Potomac a productive landscape for both Native Americans, European settlers, and Americans. The landscape transitioned from a managed environment that suited Native American societies to an intensively cultivated patchwork of farms and plantations meant for agricultural export and profit. Within this transition, the seeds of change took root and laid the foundation for future environmental concerns. The second chapter examines the rise of industry in the Potomac tidewater after the Civil War as material and recreation industries thrived. Simultaneously, the Civil War and growing Washington society also gave rise to national symbolism and romantic rhetoric that instilled meaning to the river’s water. The river was a highway that brought city and country together while serving as a larger national metaphor. Chapter three follows the development of metropolitan Washington at the turn of the century as it grappled with the consequences of growth and urbanization. The Maryland and Virginia countryside succumbed to residential and transportation sprawl and, in turn, environmental concerns became visibly evident. The sewage foreshadowed bigger changes to come, but public awareness of environmental health appeared far before the 1960s. Finally,

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<sup>19</sup> William Cronon, “A Place for Stories: Nature, History and Narrative,” *The Journal of American History* 78, no.4 (March 1992): 1348-1372. Quote from page 1349.

chapter four follows the transformation of the Potomac from a place of work to a place of white, middle-class play in both the landscape and the minds of Americans. The river's value changed from the resources in it to the scenery and land along the shores as a growing Washington consumed the landscape. Visitors exerted a growing influence on policy and projects as they supported restoration and brought new environmental perceptions. Each of these chapters is meant to demonstrate the fleeting nature of values and the ever-evolving cycle of transformations and physical changes.

Like many residents along the Potomac, my grandparents purchased a house on the Currioman Bay, Virginia in the mid-1980s as a second home while living in Arlington. I spent much of my youth growing up on the banks of the Potomac River. Even as a boy, I noticed dialectic in the landscape. For my family it was a place of play, but for locals the landscape was a place of work. The river played host to dirty, old crab boats right next to shiny, expensive speedboats. The division was, and is, an uneasy and fluctuating tension. Present since the early 1980s, my family members are considered "been heres," not quite "born heres," but much better than the "new heres." The distinction often coincides with how a person views the local landscape, with old and new visitors using the landscape for recreation and locals using it for work. But over time, as more vacation homes go up along the shore, locals find their access to the land and water of the Potomac in jeopardy. The environment has changed significantly since Native American and European settlement, but

there remains opportunity for rethinking restoration and examining the costs and assumptions inherent in the current path of improvement.<sup>20</sup>

It is also the hope of this historian-in-training that environmental, governmental, and residential organizations rethink their definition of home and belonging. Post-World War II, the definition of home for many has become more complicated than a place of birth. Many families have second homes, places they visit weekly, monthly, or yearly. As families move, students go to school, move for jobs, or follow loved ones, often the only place that remains a constant in life is that recreational home. They see the towns, environment, and people change as they visit. True, in the minds of native locals, second homeowners may never be “from here,” but to that second homeowner, this place of recreation may be what they call home—it may be the only note of consistency in their ever-changing world. We are becoming a society of transients, capable of accumulating wealth to purchase amenities, consumer goods, and even a second place we (or our families) consider home. This transient segment of the population is described as having preconceived romantic notions of what a landscape or society should look like, and that may be true. But it is also a growing segment of the population that has the capital, and may have the will, to effectively challenge destructive social tendencies and harmful landscape use. The analysis of this landscape may shed light on how scenic landscapes become places of recreation and what that means. We can only understand how much a landscape has changed by examining the foundations of its current use; only then can we understand the flaws in environmental idealism. More than

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<sup>20</sup> Cronon, “The Trouble with Wilderness,” 69-90; White, ““Are You an Environmentalist or Do You Work for a Living?”” 171-185.

four hundred years of use, value, and evolution have precluded the Potomac of old; we must not look back for validation, but must learn to address the issues of today in order to look toward a tomorrow.

## Chapter One: “The Sweetest and Greatest River”

The Land replenished with the goodliest Woods in the world, and those full of Deere, and other Beasts for sustenance: The Seas and Rivers wereof...full of excellent Fish, and of all sorts desirable; both Water and Land yielding Fowle in very great store and variety: In Summe, a Countrey, too good for ill people...<sup>21</sup>

Virginia stood a colony of abundance and plenty—a veritable Eden in the lands to the west. In Virginia, cattle grew bigger, horses more beautiful, plants more fertile, game more plentiful, and fish more abundant. In 1608, John Smith provided one of the first European accounts of the “Patawomeke.” A river “6 or 7 miles in breadth...navigable 140 miles and fed...with many sweet rivers and springs, which fall from the bordering hills.” The land around the river yielded “no lesse plenty and variety of fruit then the river exceedenth with abundance of fish,” while the “mildnesse of the aire, the fertilitie of the soile, and the situation of the rivers are so prosperous...no place is more convenient for pleasure, profit, and mans sustenance.” Smith exported an image of the Potomac to Europe. It was a portrait of enormous oak and elm, girdling the cathedral canopy, among a landscape of abundance, grandiose scale, and beauty. The physique of the Potomac indigenous population mirrored the magnitude of the landscape’s size and abundance. “The truth is,” Father Andrew White warned in 1634, “if they be injured, they may well be feared, they being People that have able bodies, and generally, taller, and bigger limbed then the English, and want not courage.”

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<sup>21</sup> “A Declaration of the State of the Colonie and Affaires in Virginia: With the Names of the Adventurors, and Summes Adventured in that Action (1620),” in *The English Experience: Its Record in Early Printed Books Published in Facsimile, Number 563* (New York: Da Capo Press Inc., 1973), 1-3.

The fecund country provided a life of plenty, leisure, and health to the inhabitants, creating individuals in the likeness of the tall, broad trees that lined the banks.<sup>22</sup>

Such is the Potomac landscape described in many of the early English narratives. The Potomac environment sounded too good to be true, and in many ways it was. Each European description captured elements of fact; there were indeed large trees, an abundance of animals, and healthy Native American settlements. But the envisioned landscape of early stories is inherently complicated, as value-laden accounts include both embellishment and fact, often inseparably intertwined. Individuals like John Smith and Father Andrew White, as well as organizations like the Virginia Company of London, aggrandized the landscape to encourage future investment, colonization, and profit. The realities of disease, warfare, and starvation in

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<sup>22</sup> For description of plant and animal growth in Virginia, see *Ibid.*, 3-5; Smith, *A Map of Virginia*, 6-7, 10-15, 18, 21; Father Andrew White, "A Briefe Relation of the Voyage Unto Maryland," in *Narratives of Early Maryland: 1633-1684*, ed. Clayton Colman Hall (New York: Charles Scriber's Sons, 1910), 39-45, 70-90. John Smith echoed White, describing the men as "generally tall and straight, of a comely proportion," with the women being "very strong, of an able body and full of agilitie." See Smith, *A Map of Virginia*, 19. Even a century later, Robert Beverley, a self-proclaimed "native" with a European outlook, suggested their source of health and happiness was "in their simple State of Nature, and in their enjoyment of Plenty, without the Curse of Labour." See Robert Beverley, *The History and Present State of Virginia, 1705* (Chapel Hill: University Library, University of North Carolina at Chapel Hill, 2006), Chapter 3, 63. <http://docsouth.unc.edu/southlit/beverley/beverley.html> (accessed March 31, 2014). This work is the property of the University of North Carolina at Chapel Hill. For additional descriptions of the country and the indigenous, see Philip Alexander Bruce, *Economic History of Virginia in the Seventeenth Century: An Inquiry into the Material Condition of the People, Based Upon Original and Contemporaneous Records* (New York: Peter Smith, 1935), 115-135. I do not intend to interrogate the Native American body in this work; I merely utilize early European descriptions in order to demonstrate how Europeans characterized the fertility of the Potomac environment. For more on the symbolism and explicated significance of the Native American body to Europeans, see Joyce E. Chaplin, "Gender and the Artificial Indian Body," in *Subject Matter: Technology, the Body, and Science on the Anglo-American Frontier, 1500-1676* (Cambridge: Harvard University Press, 2001), 243-279.

early settlements remained curiously absent from many early descriptions. In fact, the Virginia Company made a concerted effort to combat letters and rumors in England that “sought unjustly to staine and blemish that Countrey [Virginia],” by ascertaining “testimony upon Oathe... that the Countrey is rich, spacious, and well watered.” Europeans had reasons for describing what they wanted to see more than the concrete realities of what they were in the process of seeing.<sup>23</sup>

To a degree, however, the Potomac must have seemed a paradise to many of the first explorers in contrast to their homes. The human waste, refuse, and garbage floating in the Thames River of London may have indeed made the Potomac appear pristine in comparison. But Native American use of the landscape also accentuated differences in Europe and Virginia. Native American subsistence patterns, land management practices, social organization, and culture created circumstances that Europeans mistook for an extraordinarily fertile and abundant setting. It looked different to Europeans because Native Americans used it differently. Regardless of intent, contrast, or misunderstanding, the earliest descriptions of the Potomac fail to fully grasp the utilization and state of the seventeenth century landscape. The Potomac was no Eden, but it was indeed a garden, an environment shaped by wind and rain, molded by human society, habits, and life. We start with the explorer narrative, but move past to explore the beginnings and various agents of change present in the landscape’s story.

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<sup>23</sup> “A Declaration of the State of the Colonie and Affaires in Virginia,” in *The English Experience*, 2; White, “A Briefe Relation of the Voyage,” 45.

This chapter looks past the lavish descriptions of the early Potomac landscape to illustrate a more realistic account of the river and its shoreline. By doing so, one can more accurately understand a baseline in order to evaluate the landscape's change over time. The transition from a Native American low-density and varied subsistence pattern to the economically driven choice of tobacco cultivation by European and Americans occurred slowly. Land-use patterns exhausted the region's soils by the end of the eighteenth century and changed the cultural composition of the landscape with the introduction of slavery. Faced with abandoned and depleted soils, farmers used local knowledge and experimented to restore land through the use of fertilizer and crop rotation. By the eve of the Civil War, agriculture flooded the river with sediment, nitrogen, and phosphorus, altering the physiology and biology of the river, while white and black Americans shaped the physical layout of the land. The Civil War ushered in a new era of resource-use and cultural significance that have roots in the antebellum Potomac. The chapter lays the groundwork for the dramatic environmental changes that categorized the late nineteenth and twentieth centuries. By demonstrating how much the landscape has changed, the mythological vision of John Smith and Father Andrew White appears farther than ever.

The Potomac story begins with the Chesapeake Bay, the product of the Susquehanna River valley and a thirty-five million year old meteor crater. The sea level and extent of the river valley has always been at the mercy of ice. When massive ice sheets locked up water during glacial periods, the Potomac, Rappahanock, York, and James Rivers remained small tributaries to the Susquehanna, only filling in as the ice melted and the climate warmed. As

the climate cooled, the waters receded as the glaciers encroached yet again. There is no one Chesapeake Bay, but many versions spanning the earth's history. Travel back to the Pleistocene era over one million years ago and one would find an estuary similar to the current Chesapeake, the first in a long line of estuaries that would come and go with each glacial period. Every time the river valleys filled, the water carved out the Bay that we know today. From a geological perspective, the current Chesapeake exists only as a blink in time, beginning to fill approximately eighteen thousand years ago and only approaching modern levels forty-five hundred years ago. Ironically, one of the most distinguishable features on the eastern seaboard, the most current Chesapeake is a relatively new addition to the landscape of Maryland and Virginia.<sup>24</sup>

As the retreating glaciers released their long-held water and the Chesapeake filled, the Potomac grew wider and deeper, creating peninsulas to both north and south of the river. The peninsula that borders the south side of the Potomac, the Northern Neck, is surrounded by the Potomac River to the north, Rappahannock River to the south, and Chesapeake Bay to the east. The peninsula situated to the north of the Potomac, in southern Maryland, is likewise surrounded by the Patuxent River to the north, Potomac to the south, and Chesapeake Bay to

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<sup>24</sup> George W. Fisher and Jerry R. Schubel, "The Chesapeake Ecosystem: Its Geologic Heritage," in *Discovering the Chesapeake: The History of an Ecosystem*, eds. Philip D. Curtin, Grace S. Brush, and George W. Fisher (Baltimore: Johns Hopkins University Press, 2001), 3-9; Henry M. Miller, "Living along the 'Great Shellfish Bay': The relationship between Prehistoric People and the Chesapeake," in *Discovering the Chesapeake: The History of an Ecosystem*, eds. Philip D. Curtin, Grace S. Brush, and George W. Fisher (Baltimore: Johns Hopkins University Press, 2001), 109-113. Most geologists agree that the Chesapeake began to take current shape approximately ten thousand years ago. For the purposes of this work, I am establishing the current form of the Bay from the time the estuary became habitable by shellfish. The ability of shellfish to survive suggests a stabilizing sea level and environment.

the east. The southwestern shore of the Potomac rises rapidly from sea level to an undulating series of steep ridges, cliffs, and bluffs reaching upwards of 150 feet, only broken by the small tributaries and bays that feed the river. The northeastern shore, however, is characterized by a gently rising slope from the river's banks rarely reaching more than 30 feet in elevation, the only exception being portions of the Port Tobacco and Wicomico Rivers. At any point along the two peninsulas surrounding the Potomac, one is never far from the water as ninety-eight navigable bays, streams, tidal creeks, swamps, and marshes cut through the landscape.<sup>25</sup>

The prehistoric conditions of the region left the banks of the tidewater with a fertile shoreline, feeding the roots of the forest with sediment and nutrients accumulated over millions of years. The unconsolidated sediment, transported from the mountains and deposited during the Tertiary period 200 million years ago, produced a terrain composed of sand, clay, silt, gravel, and mud, intermixed with deposits of calcareous fossil material. The deepest and most fertile soils tend to the lower elevations near the water's edge, while the thinnest soils inhabit the ridges and upper elevations of the shorelines. The loose soils are acidic and easily weathered with varying sand and clay content, while steep ridge soils are vulnerable to drought and erosion from rainfall when exposed. Protected by a thick canopy of forests and replenished with organic leaf litter and ashes from intermittent fires, the Potomac

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<sup>25</sup> For a description of the countryside, see Beitzell, *Life on the Potomac River*, 3. For topographical information used on the regional summary, please see the United States Geological Survey 7.5 and 15 minute maps entitled *Alexandria, Anacostia, Mount Vernon, Fort Belvoir, Quantico, Indian Head, Widewater, Nanjemoy, Stafford, King George, Mathias Point, Dahlgren, Colonial Beach North and South, Popes Creek, Rock Point, Stratford Hall, Leonardtown, Saint Clement's Island, Kinsale, Piney Point, St. Mary's City, St. George Island, Heathsville, Point Lookout, and Burgess*.

region was indeed a patchwork of fertile soil, but one needing a canopy to prevent erosion and exhaustion.<sup>26</sup>

The sediment of the region owes part of its nutrients to the mountains deep in the river's headwaters. Draining over 36,100 square kilometers of land along its 640-kilometer length, the Potomac watershed encompasses parts of Maryland, Virginia, West Virginia, and Pennsylvania. The watershed captures the precipitation of a relatively mild and wet region averaging three to four inches of rainfall a month. The tributaries and upper Potomac wind their way through the mountains and over the fall line before mixing to create a brackish, tidal river for the last 183 kilometers of its journey to the Chesapeake Bay. The drainage of the mountains mixes with the salty brine of the Chesapeake, providing a salinity range from 0.5 percent parts per thousand near the fall line, to 18 percent parts per thousand at the mouth of the Potomac. Such a salinity range provides habitat for freshwater, estuarine, and marine species throughout the various tributaries and main stem of the Bay. Depending on rainfall and climatic fluctuation, the range of each type of species can vary considerably leading to a diverse and ever-changing cast of species at any given point on the river. In addition, the salinity and physical layout foster various species of anadromous fish species, like shad, and catadromous species, such as American eels, that use the river for migration and spawning.

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<sup>26</sup> For soil and land characteristics, see Virginia Department of Mines, Minerals, and Energy. Geology and Mineral Resources Map. Sources: ESRI, USGS, NOAA; James C. Baker, "Part VI: Soils of Virginia," in *Agronomy Handbook* (Virginia Cooperative Extension), 70-72; Avery Odelle Craven, *Soil Exhaustion as a Factor in the Agricultural History of Virginia and Maryland, 1606-1860* (Urbana, IL: The University of Illinois, 1926), 25-29. For sediment deposit, see Fisher and Schubel, "The Chesapeake Ecosystem: Its Geologic Heritage," 3-6

Such a diverse and flexible ecosystem created an environment suited for human habitation in a pre-modern world.<sup>27</sup>

What we know about the Chesapeake's people is based on incomplete archaeological materials, fragments of memory, and biased and incomplete European records. Still, it is clear that the region supported a large and dense population from at least 10,000 years ago when earliest humans arrived during what is termed the Archaic period. Middle Archaic groups maintained small settlements dispersed among inland swamps and ridges as sea-level rise prevented coastal settlement. Spread over the landscape, the inhabitants' low population density provided extensive ranges for subsistence. During the Late Archaic period approximately 5,000 years ago, the region transitioned to a drier climate and the Chesapeake

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<sup>27</sup> For geography, salinity, and area, see Donald W. Pritchard and Jerry R. Schubel, "Human Influences on the Physical Characteristics of the Chesapeake Bay," in *Discovering the Chesapeake: The History of an Ecosystem*, eds. Philip D. Curtin, Grace S. Brush, and George W. Fisher (Baltimore: Johns Hopkins University Press, 2001), 60-70; For additional salinity measurements, see Chesapeake Bay Program, Chesapeake Bay Mean Surface Salinity Map, February 2008. For climatic conditions of the Potomac, see John E. Kutzbach and Thompson Webb III, "Climate and Climate History in the Chesapeake Bay Region," in *Discovering the Chesapeake: The History of an Ecosystem*, eds. Philip D. Curtin, Grace S. Brush, and George W. Fisher (Baltimore: Johns Hopkins University Press, 2001), 17-27. The mean temperature in Washington is approximately 79°F in July and 37°F in January, while the annual average temperature is 14°C (57°F). Rainfall in the region ranges from 3 to 4 inches a month. The only notable exception to the climate consistency is the Little Ice Age around 1780, a cooler and wetter period in the Chesapeake region. This anomaly is supported by anecdotal evidence in the diaries of George Washington and Thomas Jefferson who indicated that many years between 1640 and 1784 the Chesapeake Bay froze over multiple times. George Washington also recorded a snowfall of three feet on January 26-29, 1772. For diversity of species present in the Potomac and range of salinity, see Edward O. Murdy and John A. Musick, *Field Guide to Fishes of the Chesapeake Bay* (Baltimore: The Johns Hopkins University Press, 2013), 3-9. Generally, freshwater species can tolerate salinity up to 5-10 percent, estuarine species can tolerate 0-30 percent salinity, while marine species can tolerate greater than 30 percent. Anadromous fish migrate from oceans to freshwater rivers like the Potomac in order to spawn, while Catadromous fish travel from freshwater to saltwater in order to spawn.

sea level stabilized near the current shoreline. The climate encouraged the spread of oak, hickory, chestnut, and pine—nut and acorn producing trees—while the stabilization of the shoreline provided a foothold for oysters, muscles, cockles, and clams. Presented with consistent, plentiful food sources, Late Archaic Indian populations increased substantially and shifted to coastal settlements about 3,500 years ago.<sup>28</sup>

A variety of food sources proved greatest along the river's freshwater transitions 3,000 years ago. Subsequently, that is where the largest Early Woodland settlements congregated. The brackish nature of the Potomac allowed for a diverse range of both fresh and saltwater species of fish, shellfish, and animals across the seasons. Native Americans harvested oysters, crabs, mussels, clams, and fish, using wooden canoes, nets from tree bark or sinew, fishing lines with bone hooks, fish traps, and the bow and arrow. Following the seasonal migrations or local distributions, the local population supplemented the marine bounty with land mammals like deer, and a variety of wild plants, acorns, and nuts. The diverse menu present in the landscape provided a level of insurance, spreading subsistence sources over the landscape and the seasons, allowing an increase in population and settlement size through the Middle Woodland period.<sup>29</sup>

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<sup>28</sup> Miller, "Living along the 'Great Shellfish Bay,'" 109-113.

<sup>29</sup> Ibid., 109-117. For more information Native American fishing technology, see Victor S. Kennedy and Kent Mountford, "Human Influences on Aquatic Resources in the Chesapeake Bay Watershed," in *Discovering the Chesapeake: The History of an Ecosystem*, eds. Philip D. Curtin, Grace S. Brush, and George W. Fisher (Baltimore: Johns Hopkins University Press, 2001), 195-196. For accounts of seventeenth century Virginia and the flora and fauna of the region, as recorded by early settlers and the author, see Bruce, *Economic History of Virginia*, 100-125.

Early Native American life, however, was no paradise or landscape of leisure; it was subject to the same pressures and conflict of any growing population. And although a lack of written record makes reconstructing the lives of the earliest inhabitants difficult at best, anthropological and archaeological findings provide a glimpse. Approximately 1100 years ago, two changes occurred during the Late Woodland period: the largest settlements dispersed, fracturing into smaller bands and settlements; and agriculture arose leading to more sedentary communities. One possibility indicates a climate shift to warmer and drier weather during what is known as the Medieval Warm Period. The dispersal of large settlements, coupled with a higher charcoal content in sediments during this period suggests a very dry environment in flux and quick to ignite. The climatic effects on the ecosystem disrupted regional shellfish and fish populations, while forest fires dispersed game and forced relocation. In addition, Native American settlements along the river locally exploited resources like oysters, crabs, and fish, making the community untenable during certain seasons of the year. Either way, unable to rely on the previously abundant and consistent subsistence sources, inhabitants disbanded the largest settlements and focused on the development of agriculture in the soils of the riverside. The cultivation of corn, beans, and squash, initially supplementing the food sources of Native Americans, fostered an increase in population growth, fortified villages, and chiefdoms.<sup>30</sup>

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<sup>30</sup> For description of the two major changes in the Potomac, see Miller, “Living along the ‘Great Shellfish Bay,’” 109-117. For early Native American life along the river, see Stephen Potter, *Commoners, Tribute, and Chiefs: The Development of Algonquin Culture in the Potomac Valley* (Charlottesville: University Press of Virginia, 1993), 27-47, 103-148.

The dynamic and unstable nature of the Potomac region forced indigenous communities to pursue a sedentary life founded on agriculture. Native Americans still relied on a mixture of hunting and gathering for subsistence, but supplemented their food stores with planting. Girdling and scorching the bark and roots, Native Americans killed trees to open up the canopy while providing additional nutrients through the input of ash. Broken down and formed into mounds or left as standing trunks, the decomposing trees created a nutritious foundation for corn, beans, pumpkin, and melon. Women and children tended the nutrient-demanding crops, like corn, which benefited from the nitrogen-fixing capabilities of legumes while providing a support structure for the vine-like plants. Partner planting allowed a stable input of nutrients into the soil and ensured a level of sustainability for the cleared plot of land without heavy fertilizer application. After a few years of cultivating one location, the indigenes often cleared new sites to allow the tired plots to return to forest. Although the indigenous communities relied on a variety of food sources for subsistence, up to 50 percent of their consumed calories may have been the product of agricultural staples like corn. The mixed subsistence pattern of agriculture, hunting, fishing, and gathering, together with a low population density created an efficient survival system. Reaping one calorie of food may have only required 0.05 to 0.10 calories of work. Far from being in harmony with nature, Native Americans skillfully managed the local environment for the highest returns and lowest damage by not relying on any one resource for survival and adopting a form of agriculture that limited erosion and soil exhaustion. They adopted a pattern suited to the Potomac environment that was indeed fertile, but simultaneously fragile.<sup>31</sup>

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<sup>31</sup> Descriptions of agriculture can be found, Smith, *A Map of Virginia*, 16-17; Potter,

At the time of European contact, a diverse and durable Native American population resided on the shores of the Potomac. The south bank included the Tauxenents, Patawomekes, Matchotics, Chicacoans, and Wicocomocos. Speaking a form of Eastern Algonquian, these groups shared cultural and social traits while retaining relative autonomy. South of these societies, Powhatan, or the “mamanatowick,” led a loose network of these territories in the Virginia tidewater, held together through respect, wealth, and kinship. Residing in semi-permanent villages ranging from two to fifty houses in size, these societies lived in a fluid power structure that made up the fringe of Powhatan’s territory. The political hierarchy trickled down from Powhatan to “werowances” or female “weroansquas,” and then down to the “lesser werowances” spread across smaller settlements. The rule of Powhatan was far from absolute, leading to an uneasy fluctuation of social power within the broken tidewater landscape. The south Potomac shoreline signaled the extent of Powhatan’s control, suggesting that the groups along the river exerted greater independence than communities further south in the Virginia tidewater.<sup>32</sup>

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*Commoners, Tribute, and Chiefs*, 32-34; David W. Eaton, *Historical Atlas of Westmoreland County Virginia* (Richmond: The Dietz Press, 1942), 11. For agricultural labor divisions between gender, see Camilla Townsend, *Pocahontas and the Powhatan Dilemma* (New York: Hill and Wang, 2004), 16-19. For a more detailed description of seasonal subsistence patterns and corn consumption estimate, see Miller, “Living along the ‘Great Shellfish Bay,’” 118-121. For calorie and human energy estimate, see Albert E. Cowdrey, *This Land, This South: An Environmental History* (Lexington, KY: University Press of Kentucky, 1996), 15-17.

<sup>32</sup> For a description of the groups, Powhatan, and the Native American titles, see Smith, *A Map of Virginia*, 9, 35-38. For descriptions of communities, structure, and politics, see Frederic W. Gleach, *Powhatan’s World and Colonial Virginia: A Conflict of Cultures* (Lincoln: The University of Nebraska Press, 1997), 22-43; Potter, *Commoners, Tribute, and Chiefs*, 7-20, 170-180; Jean B. Russo and J. Elliot Russo, *Planting an Empire: The Early Chesapeake in British North America* (Baltimore: The Johns Hopkins University Press,

North of the river and outside of Powhatan's complete control, the Conoy territory included a collection of Algonquian-speaking groups called the Nacotchtanks, Picataways, Pamunkeys, Nanjemoys, Potapacos, and Yaocomacos. The Conoy territory exerted a similar structure to the Powhatan territory consisting loosely of connected networks of settlements led by an elite class and hierarchical structure of wealth and respect. The Conoy provided a buffer for Powhatan against the aggressive Iroquoian-speaking Susquehannock of the northern Chesapeake. The Conoy of the Potomac tidewater felt pressure from the Iroquois-speaking Susquehannock and Massawomecks of the North, as well as the Powhatan settlements to the South. Stuck between a rock and a hard place, the Piscataway, the most powerful of the Conoy, found themselves on the defensive against the Susquehannock in the early-seventeenth century as European ships entered Potomac waters. The tensions and fluid dynamics within Native American society mirrored the perpetually changing landscape in which they lived.<sup>33</sup>

Upon entering the river, Europeans found a land populated with small settlements and large villages interconnected through a complex, fluid network of allegiances and conflicts with neighboring groups. Based on a rather conservative estimate, the Conoy and Powhatan

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2012), 10, 23-27, 46-48. Groups like the Patawomekes likely experience greater insecurity at the fringes of Powhatan's control, see Townsend, *Pocahontas and the Powhatan Dilemma*, 102-104.

<sup>33</sup> Gleach, *Powhatan's World*, 22-43; Potter, *Commoners, Tribute, and Chiefs*, 7-20, 170-180; Russo, *Planting an Empire*, 10, 23-27, 46-48. The Conoy Pamunkeys are not to be confused with the Virginia Pamunkey Native American group. For more on conflict and tension, see White, "A Briefe Relation of the Voyage," 73-75. According to Father White, the Susquehannock pursued the Piscataway "partly for superiority, partly for to get their Women, and what other purchase they could meet with." Fringe groups outside of Powhatan's control walked a tight rope between their neighbors to the north and south, see Townsend, *Pocahontas and the Powhatan Dilemma*, 102-104.

territories together likely numbered between 5,500 and 11,000 individuals, spread out over the Potomac region as part of the 31,000 to 59,000 Delaware, Nanticoke, Algonquian, and Iroquois that inhabited the Chesapeake. The most powerful groups lived in villages of 12 to 40 houses, while most of the population lived in small hamlets with between 2-10 houses. The sizable Algonquian population relied on an annual subsistence cycle of shellfish, fish, agriculture, and game. Such a rich menu allowed a population density higher than any neighboring areas of approximately 71 to 106 people per square kilometer. Although dense, the region exhibited a level of fluidity that allowed travel and relocation depending on the seasonal availability or scarcity of food across the landscape. And although Potomac Algonquians did not live in a disease free utopia, a subsistence pattern relying on nutritious foods like oysters created settlements of relatively healthy populations, while the forest provided the herbs and roots necessary for treating diseases and ailments. The rhythm of life reflected patterns of the seasons. Native Americans harvested and collected acorns and nuts during the summer, hunted in the Fall and Winter, followed by fishing and preparing the fields as Spring blossomed.<sup>34</sup>

Europeans found Algonquian settlements nestled between vast forests of chestnut, elm, pine, hemlock, oak, holly, sweetgum, and hickory, bordered by tidal creeks and marshes

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<sup>34</sup> For Potomac population estimates, see Potter, *Commoners, Tribute, and Chiefs*, 20-24. For seasonal subsistence patterns, see *ibid.*, 40-43; Miller, "Living along the 'Great Shellfish Bay,'" 117-124. Population estimate, density numbers, and information on diseases are from Douglas H. Ubelaker and Philip D. Curtin, "Human Biology of Populations in the Chesapeake Watershed," in *Discovering the Chesapeake: The History of an Ecosystem*, eds. Philip D. Curtin, Grace S. Brush, and George W. Fisher (Baltimore: Johns Hopkins University Press, 2001), 132-140. For a description of settlements sizes and conservative population numbers, see Lewis R. Binford, *Cultural Diversity among Aboriginal Cultures of Coastal Virginia and North Carolina* (New York: Garland Publishing, Inc., 1991), 69-84.

fringed with ash, walnut, alder, and birch. Europeans saw these vast forests in utilitarian terms, noting the “white Oake is good for Pipe-staves, the red Oake for wainescot,” while “Walnut, Cedar, Pine, and Cipresse, Chestnut, Elme, Ashe, and Popler, all of which are for Building, and Husbandry.” But they also noticed the landscape looked more like a park than a thick forest. The cathedral forest was the result of regular burning of leaf litter and forest debris to reduce the growth of underbrush while opening space for the growth of herbs and shrubs like blueberry and arrowwood. Herbs and new growth attracted animals like deer that browsed on the tender plants. Fire also provided a means for communal hunting. Native Americans used strategic fires to funnel deer into narrow spaces and right into the hands of their fellow hunters. Fire meant efficiency and environmental rebirth for the Algonquian communities of the tidewater. A complex interaction between physical forces and careful Native American management blended to create a fertile, park-like landscape that adapted to the use of fire. What Europeans saw as natural, was actually the result of ingenuity.<sup>35</sup>

Early seventeenth century settlers survived in an inhabited world by clinging to the shoreline when they first arrived. The first settlers carved out small sections of land for agriculture while others traded furs and goods with local settlements. Subsidized and encouraged by the Virginia Company of London, colonists arrived in greater numbers during

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<sup>35</sup> For pollen samples and a description of forest distribution and species, see Brush, “Forests Before and After,” 51-57; U.S. Department of the Interior, National Park Service, *A Synthesis of Natural Resource Information for George Washington Birthplace National Monument*, Technical Report NPS/NER/SRTR-2007/077, 56. Descriptions of early forests and plants, see Bruce, *Economic History of Virginia*, 85-98; Smith, *A Map of Virginia*, 13, 21, 23-25. For the quote about, and a description of, early timber in 1635, see William Peaseley, “A Relation of Maryland,” in *Narratives of Early Maryland: 1633-1684*, ed. Clayton Colman Hall (New York: Charles Scriber’s Sons, 1910), 79.

the 1620s with hundreds of tenants, apprentices, and laborers. The earliest colonists brought with them plants and animals from Europe, including cattle, swine, poultry, and fruits. By 1635, familiar European staples dotted the shoreline, with pigs foraging for nuts and plants in the forest, cattle grazing the pastures, and orchards lining the fields. The introduction of livestock further transformed a forested landscape to a European countryside of pastures, fields, and gardens. As colonists cleared land for fields, a broken landscape of fields, overgrown forests, and slipshod homesteads replaced the cathedral forests. Cattle and swine did their part in transforming the landscape. In fact, the new landscape appealed to hogs and cattle so much that they thrived in the open forest without help from their owners. Pigs inhibited the ability of trees to regenerate by browsing and compacting the soil. They also turned organic material into meat, fattening “so well, that some of them were killed out of the woods for Porke and Bacon, which was excellent good and fat.” Livestock provided a safety net for the earliest settlers as they acclimated to the conditions around them. The abundance of the shoreline and the limited conception of boundaries by Native Americans created a void that European domesticated animals happily filled. As settlers carved fields out of tall forests their livestock altered the forest around them.<sup>36</sup>

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<sup>36</sup> For the plants and animals colonists brought with them, see Peaseley, “A Relation of Maryland,” 70-81. For a description of the consequences of livestock grazing, browsing, and compaction, see William Cronon, *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York: Hill and Wang, 1983), 145-156; Beitzell, *Life on the Potomac River*, 4. The details of people and goods of the Virginia Company are noted in the following, Majesties Council for Virginia, “A Declaration of the State,” in *The English Experience*, 1-11; Majesties Council for Virginia, “A Note of the Shipping, Men, and Provisions sent to Virginia, by the Tresurer and Company in the Yeere, 1619,” in *The English Experience: Its Record in Early Printed Books Published in Facsimile, Number 563* (New York: Da Capo Press Inc., 1973), 1-8.

The shoreline became prime real estate for European settlers in the early 1600s, competing with an Algonquian culture that had a very different conception of private property and boundaries. The divided Potomac shoreline followed neither the complex curves of the environment nor the fluid and flexible nature of Algonquian settlements. On the Virginia side, colonists surveyed and conveyed land patents in the 1640s. Figure 3 shows the determination of Europeans to fix manmade boundaries on the Potomac landscape, despite the curvatures and inconsistencies of the physical environment. As fluid as Native American society was, Europeans proved the opposite as they forced the land to fit their preconceived notions of straight lines and ideas of possession. A transition from an Algonquin to a European landscape happened quickly. Clearings increased dramatically in the mid-seventeenth century, from less than 5 to about 20 percent of the region as settlers felled forests for agricultural fields and homesteads. As trees fell, new species pushed forward with the settlers and the composition of local ecosystems changed in response to the fragmented habitats. Pollen analysis of the environment illuminates the speed with which forests disappeared, as species like ragweed increased dramatically as early settlers traded forest canopy for open fields. European preconceptions of land management quickly manifested themselves through physical changes to the Potomac.<sup>37</sup>

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<sup>37</sup> For land patent and conveyance, see Eaton, *Historical Atlas of Westmoreland*, 26-27, 67-70. For the percentage of cleared land and fragmentation of habitat, see Brush, "Forests Before and After," 47-55; For a visual understanding of settler movement on the east coast, see Herman R. Friis, *A Series of Population Maps of the Colonies and the United States, 1625-1790* (New York: American Geographical Society, 1940). For pollen analysis, see Brush, "Forests Before and After," 53.



Competition between settlers and Native Americans grew as more Europeans moved to the Potomac shores. Most seventeenth-century home sites were within 600 feet of the shoreline to allow for easy export of tobacco, with only about 10 percent of homeowners further than 5,000 feet inland. As new arrivals pushed settlement inland, ridges became crisscrossed with tobacco rolling roads. The roads consisted of little more than open ditches used to transport the enormous hogshead barrels of tobacco, which provided farmers reasonable access to wharfs at the shoreline. Slowly, homesteads crept inward and came to resemble a fragmented countryside, rather than an environment familiar to the werowances who once held sway.<sup>38</sup>

Social upheaval and displacement followed the arrival of seventeenth century colonists, quickened by the suffering and death from European diseases. Millennia of separation across the oceans meant that European societies co-evolved with European, African, and Asian diseases, while Native American bodies lacked resistance to the new pathogens. These pathogens included a salvo of smallpox, influenza, plague, measles, whooping cough, scarlet fever, and mumps. The Algonquians of the tidewater Chesapeake likely suffered epidemics prior to John Smith's arrival, passed down the English and French trade networks from their fellow Algonquians and rival Iroquoians to the North. The first confirmed epidemic occurred in 1667 when a ship landed in Northhampton County, Virginia bearing smallpox to the shores of the eastern Chesapeake. The disease hit Native Americans

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<sup>38</sup> For numbers and percentages, see Lorena S. Walsh, "Land Use, Settlement Patterns, and the Impact of European Agriculture, 1620-1820," in *Discovering the Chesapeake: The History of an Ecosystem*, eds. Philip D. Curtin, Grace S. Brush, and George W. Fisher (Baltimore: Johns Hopkins University Press, 2001), 220-226; Beitzell, *Life on the Potomac River*, 4-5, 12-15.

hard, wiping out many on the eastern shore. Due to the well-developed trade routes, the pathogen likely made its way to the Potomac shores shortly thereafter. Smallpox contributed to a collapse in the Algonquian population that crossed community and language barriers, with some researchers suggesting a reduction of up to four-fifths their original strength by the late seventeenth century. With death came social calamity and upheaval that helped open up the Potomac to early European settlers. But to say that pathogens opened up a physical and cultural void in the Potomac landscape—one that settlers quickly filled—oversimplifies the transition from Algonquian to European hegemony in the landscape. In actuality, pathogens only limited the potential for Native American resistance. Aggression and encroachment from Europeans forced their demise.<sup>39</sup>

The seizure of the shoreline foreshadowed the fate of the indigenous Algonquian. Like most early American historical narratives, Algonquian control of the Potomac landscape dissipated rapidly due to a combination of European settlement, aggression, and pathogens. The early seventeenth century was a time of uneasy cohabitation in the landscape and intermittent conflict between European settlers and Algonquian communities. Europeans pushed inland along tidal creeks and fertile pockets between ridges. With further loss of land, Algonquian control of eastern Virginia began to dissipate. In 1646, during the third Powhatan

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<sup>39</sup> Regardless of the exact rate of decline, by 1900 the indigenous population of the Chesapeake approximated five percent of its initial strength at contact. For diseases and impact on Native American societies, see Ubelaker and Curtin, “Human Biology of Populations,” 131-140; Alfred W. Crosby, “Virgin Soil Epidemics as a Factor in the Aboriginal Depopulation in America,” *The William and Mary Quarterly* 33 no. 2 (April 1976): 291, 295-296. For a description of loss, see Beverley, *The History and Present State of Virginia*, 62. For 1667 epidemic and population reduction numbers, see Cowdrey, *This Land, This South*, 27-28.

war, the British killed Opechancanough, the residing mamatanowick of Powhatan territory. Lack of cohesive Native American leadership and the establishment of county seats along the Virginia shoreline in 1645 combined with the loss of hunting and traditional lands to the demise of local indigenous. By 1650, with the exception of the Susquehannock to the north, many surviving communities of the eastern the Potomac found themselves displaced to the west or marginalized outside their ancestral lands.<sup>40</sup>

Subject to heightened suspicion and outright aggression during Bacon's Rebellion in Virginia, the few remaining Native American groups could not contend with British brutality and law. Following the attacks on the friendly Pamunkey and Occoneechees in 1676 and the conclusion of Bacon's Rebellion, the Crown attempted to protect the few remaining indigenes under the Treaty of Middle Plantation in 1677. Under the guise of protection, however, British rule actually created limitations by restricting mobility, commerce, and access to land, forcing many groups to sell their land. The second half of the seventeenth century cemented European law and cultural supremacy, as most Native American groups chose to migrate westward. Even the mighty Susquehannock migrated, traveling north to the Iroquois territory of the Five Nations. By 1705, Robert Beverley described, the "Indians of Virginia are almost wasted, but such Towns, or People as retain their Names, and live in Bodies, are hereunder set down; All which together can't raise five hundred fighting men." In Northumberland County along the Potomac, only three men remained of the once numerous

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<sup>40</sup> For examples of colonial aggression, war, and displacement of Native Americans, see Potter, *Commoners, Tribute, and Chiefs*, 189-198; Russo and Russo, *Planting an Empire*, 112-113; Walsh, "Land Use, Settlement Patterns," 220-224; Gleach, *Powhatan's World*, 190-198.

Wicocomocos. While inaccurate to say all Native Americans disappeared from the tidewater, Algonquian influence and power diminished in the late seventeenth century under the weight of a growing tidewater colony. As access to the landscape for fishing, planting, and hunting continued to decrease, the land changed to an environment broken by the straight-edged boundaries of European property.<sup>41</sup>

As the shoreline changed, both the connections to outside markets and the vessels that sailed the river transformed. Local officials set up ferries to connect the Maryland and Virginia shores in 1654, while a formal mail system between Philadelphia and the Potomac region began in 1695. By the turn of the century, settlements along the river acquired and built vessels for trading purposes, including barges, sloops, and shallops. These vessels played two roles, they allowed tobacco farms to get their goods to market, and permitted farmers and fishermen to harvest the river's resources. Nets and oyster tongs became standard household equipment. While the region's earliest colonists could rely on shallow water oysters as a convenient supplement to survival, settlers moved to channel oysters as local shallow-water areas became exhausted. As farms and plantations established themselves, farmers increasingly relied on the river's resources for subsistence and markets in local towns.<sup>42</sup>

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<sup>41</sup> For information on Bacon's Rebellion, Treaty of Middle Plantation, and colonial policy towards Native Americans, see Russo and Russo, *Planting an Empire*, 115-119; Gleach, *Powhatan's World and Colonial Virginia*, 194-198. For a description of reduced indigenous strength, see Beverley, *The History and Present State of Virginia*, Chapter 3, 62. A few groups like the Pamunkey and Mattaponi managed to survive in the tidewater, but not without disturbance and harassment at the hands of settlers.

<sup>42</sup> For commercial and mail connections, see Beitzell, *Life on the Potomac River*, 6-15. An analysis of seventeenth-century trash dumps in the Potomac region suggests that settlers

Virginia and Maryland relied on the agricultural export of tobacco throughout the seventeenth and eighteenth century, a pursuit strongly encouraged in law and action by the British crown. But within this drive for tobacco cultivation lies a paradox that is often absent in the story of a landscape—these individuals worked really hard to manage the environment—not to destroy it. Every effort to increase trade and establish the colony was an environmental act. In Maryland, tobacco served as currency in the early eighteenth century as payment, penalty, or reward. Every action, from drinking on Sunday to the killing of a wolf resulted in a tobacco transaction. Marylanders and Virginians needed the landscape for tobacco and, in turn, the colonies looked to keep the tobacco economy running smoothly. Tobacco growers had to have a barn capable of holding their own crop, while felling timber for casks and the cast-makers followed a very rigid schedule to make harvest. Tobacco hogsheads had to be an exact size and weight. What was the cost for those who failed to comply with any of the laws and measures regarding tobacco production? A steep tobacco penalty.<sup>43</sup>

In the minds of the elite, tobacco plantations assured aristocratic leisure and enhanced wealth, while in the minds of the poor the crop promised profit and status. Requiring

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harvested the most accessible oysters from coves, while eighteenth-century sites featured the elongated shells of oysters indicative of deeper channels, see Kennedy and Mountford, “Human Influences on Aquatic Resources,” 196-198.

<sup>43</sup> For information on tobacco laws and penalties, the killing of wolves, and specific laws, see *An Abridgement of the Laws in Force and Use in Her Majesty's Plantations; (viz.) of Virginia, Jamaica, Barbadoes, Maryland, New-England, New-York, Carolina, &c. Digested under proper heads in the method of Mr. Wingate, and Mr. Washington's abridgements* (London: Printed for John Nicholson at the King's-arms in Little Britain, R. Parker, and R. Smith, under the Royal-exchange, and Benj. Tooke at the Middle-temple-gate in Fleet street, 1704), 20-21, 75, 79, 87. The Enoch Pratt Free Library in Baltimore loaned this volume to the Maryland State Archives for filming.

immense labor, the cultivation of tobacco started shortly after the New Year, when farmers planted seedlings under a protective coating of organic material and manure. Once transplanted into mounds in April or May, farmers watched their investment closely for signs of pests, disease, and maturity. Fields required constant upkeep, including weeding, manuring, and pruning. Workers cut and hung tobacco in the curing barn, called a “tobacco house,” to dry. Once cured and stemmed, growers carefully packed the leaves in large hogshead barrels for market, pushing the 1,000-pound barrels down rolling roads to the local wharf. The entire process of seeding, transplanting, monitoring, harvesting, curing, stemming, and packing often took up to fifteen months to complete, meaning tobacco cultivation was a never-ending process. Everything revolved around turning the tobacco plant into a marketable commodity for Europe and the West Indies.<sup>44</sup>

The growth of tobacco was an economic and social choice that tied tidewater Virginia and southern Maryland to a labor system of slavery. Given such a laborious and time-consuming process, large growers required a vast labor network of African slaves to complete the work, while even the most humble tobacco farmer relied on family members and neighbors during peak times of labor. Tobacco cultivation underwent a dramatic shift from the early seventeenth to eighteenth centuries. Decimated by British law and disease, any

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<sup>44</sup> For a description of tobacco culture and the agricultural process, see Anonymous, *American Husbandry: Containing an Account of the Soil, Climate, Production and Agriculture, of the British Colonies in North-America and the West-Indies; with Observations on the Advantages and Disadvantages of Settling in them, Compared with Great Britain and Ireland, Volume I* (London: J. Bew, 1775), 222-230; Eaton, *Historical Atlas of Westmoreland*, 2-5. Detailed description of the tobacco process, see T. H. Breen, *Tobacco Culture: The Mentality of the Great Tidewater Planters on the Eve of Revolution* (Princeton, NJ: Princeton University Press, 1985), 44-58.

notion of a Native American labor system quickly disappeared, forcing growers to rely on servants in the 1600s. But by the turn of the century, however, growers came to rely on the importation of slaves. The tobacco culture of white growers and their slaves replaced Algonquian life in the Potomac region less than a century after the arrival of John Smith. As described by Robert Beverley, “male-servants and slaves of both Sexes, are employed together in Tilling and Manuring the Ground, in Sowing and Planting Tobacco, Corn, &c...but the Work of both, is no other than what the Overseers, the Freemen, and the Planters themselves do.” Beverley’s somewhat egalitarian description demonstrates the early dependence on imported labor by the early eighteenth century. By establishing African-American labor, plantation owners unwittingly introduced a new agent—albeit an often overlooked and oppressed agent—into the landscape: Africans.<sup>45</sup>

Africans inserted a new dynamic in local communities and opened the door for future racial tension. Slaves arrived to the shores of the Potomac directly from Africa or after a brief stopover in the West Indies. Owners purchased most Potomac slaves along the Maryland shore near the mouth of the river or inherited through them through connections in Virginia or Maryland. The higher duty imposed on the purchase of slaves in Virginia led to the smuggling and silent purchasing of the majority of slaves in southern Maryland. Most slaves along the Potomac originated in Senegambia in West Africa before arriving in the first few years of the eighteenth century. By 1720, 25 percent of the population in the Chesapeake was

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<sup>45</sup> Walsh, “Land Use, Settlement Patterns,” 234-237. I use the term “grower” here to include gentry, farmers, and tenants. Each group was involved to some degree in the export of tobacco and utilized forms of labor, whether through servants, slavery, or family. For quote see Beverley, *The History and Present State of Virginia*, Chapter Three, 36.

of African descent. The proportion of slaves continued to rise through the eighteenth century, with some counties recording a larger slave than white population (see figure 4).<sup>46</sup>

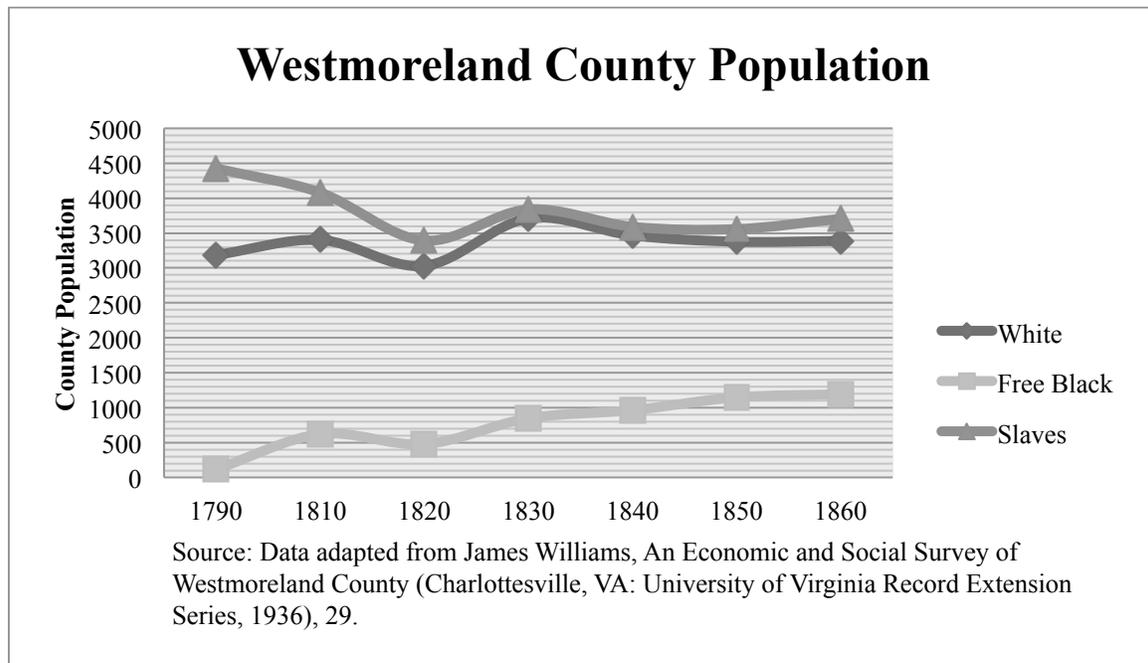


Figure 4. Representative sample of early tidewater county populations.

But the reliance on tobacco as a principal crop had costs beyond slave labor and the often-false promise of status. Tobacco sapped the nutrients of tidewater Virginia and Maryland. Fertility describes a land’s ability to produce plant life, normally defined by what

<sup>46</sup> For figure of African Americans in the Chesapeake, as well as the rise of slavery in the region, see Russo and Russo, *Planting an Empire*, 93-96. For information on the origins of slave populations in Maryland and Virginia, see Lorena S. Walsh, “The Chesapeake Slave Trade: Regional Patterns, African Origins, and Some Implications,” *The William and Mary Quarterly* 58, no.1 (January 2001): 144-147, 166, 170; Donald M. Sweig, “The Importation of African Slaves to the Potomac River, 1732-1772,” *The William and Mary Quarterly* 42, no. 4 (October 1985): 507-524.

societies want to grow, and often includes physical criteria like minerals, soil structure, and tith. But it also includes a complex suite of cultural rigors, agricultural methods, science, individual technique, and expectations of the land. Most settlers considered the soil along the Potomac fertile, especially in the lowlands along the shoreline and creeks. Philip Fithian, a tutor at Nomini plantation, described the poor soil of the ridges as producing “great quantities of Savins & Pines,” whereas the soil near the Potomac is “often vastly rich.” But soils are not inherently fertile; they are the result of physical nature, geologic processes, and deposits, as well as eons of accumulated organic matter protected under a thick forest canopy. Crops like tobacco, which demanded high levels of nitrogen, phosphorus, potassium, calcium, magnesium, and sulfur, quickly absorbed the soils hard-earned nutrients as rain eroded the topsoil into the river. Unless heavily fertilized, tidewater soils could only support three or four consecutive harvests of tobacco before declining yield and quality prohibited a marketable product. Once exhausted, growers in the 1700s had two choices: plant corn or wheat using fertilizer and a system of crop rotation, or clear new land and abandon the previous field to pine.<sup>47</sup>

Depending on the means and proclivities of individual owners, the tidewater became a collection of abandoned fields, thick pine, and diversified plantations and farms. Tobacco created an unstable relationship between the farmer and the land, subject to the limits of

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<sup>47</sup> For quote about soil fertility, see Philip Vickers Fithian, *Journal and Letters: Student at Princeton College 1770-72 Tutor at Nomini Hall in Virginia* ed. John Roger Williams (Princeton, NJ: C. S. Robinson & Co. University Press, 1900) 140-141. All information about soil fertility, tobacco production and nutrient demands, as well as expectations, see Walsh, “Land Use, Settlement Patterns,” 222, 238-241; Cowdrey, *This Land, This South*, 3, 31; Breen, *Tobacco Culture*, 3-39; Craven, *Soil Exhaustion in Virginia and Maryland*, 30-33, 40-57, 55-60; Anonymous, *American Husbandry*, 230-235.

acreage and fertility, as well as the fickle international market. The dream crop left many farmers deep in debt as low market value, high labor costs, and an emphasis on tobacco quality merged to create a system where clearing land became necessary to turn a profit. The tight margins of growers also inhibited their ability to invest in one's own farm. The demanding requirements and persistently low market price for tobacco meant heavy debt saddled plantations and farms while soils lay exhausted by the eve of the American Revolution. Nineteenth and early twentieth century agriculturists and historians blame soil exhaustion on tobacco cultivation along the Potomac, while some contemporary historians argue that the combination of crop rotation and fallow intervals and respectable farm management in the early eighteenth century prevented the widespread exhaustion of tidewater soils. The truth is hidden in the middle, depending on individual farm management practices and intensity of cultivation. One thing is for certain, however, that by the late eighteenth century tobacco cultivation was falling out of favor in Maryland and Virginia and significant portions of the Potomac landscape lay exhausted.<sup>48</sup>

The tobacco economy of Virginia finally faltered by the 1770s, with growers eager to sever their debts with Britain and save their lands. With all the tidewater shoreline and inland landscape patented or claimed by the 1760s, farmers looked for marketable crops to replace

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<sup>48</sup> For descriptions of tobacco farming, challenges of tobacco, and debates about the relationship between tobacco and soil fertility, see Fithian, *Journal and Letters*, 140-141; Walsh, "Land Use, Settlement Patterns," 222, 238-241; Cowdrey, *This Land, This South*, 3, 31; Craven, *Soil Exhaustion in Virginia and Maryland*, 30-33, 40-57, 55-60; Anonymous, *American Husbandry*, 230-235. Historian Lorena Walsh argues that farm management, rotation, and fallow methods prevented the exhaustion of soil, while historians like Avery Odelle Craven and agriculturalists like Edmund Ruffin argue that tobacco was the scourge of the landscape. For a discussion on debt and farmers leading up to the Revolutionary War, see Breen, *Tobacco Culture*, 3-39.

tobacco. Farms, both large and small, explored alternatives. In 1777, Robert Carter, a member of the tidewater Virginia gentry, ordered that for “every thirty-two acres of tobacco grown, sixty-four acres were to be cropped in Indian corn, three in cotton, two each in Irish Potatoes, turnips, and pumpkins, and one in flax.” Shortly thereafter, a traveler Johann David Schoepf observed extensive wheat fields along the Potomac, “undertaken with more enthusiasm in this region, that is, after the profit from their tobacco had been greatly lessened by the heavy duties imposed in England, and besides, their lands, (even then exhausted), not producing such large crops of tobacco.” Wheat and corn cultivation turned out to be the saving grace for farmers in Virginia and Maryland as the Revolution drew to a close. But like tobacco, wheat and grains brought with them environmental change unique to the specific plant. Due to low yields, wheat required more land to be a profitable venture. Farmers cleared ever-larger fields to accommodate the grains, opening up more of the region’s soil to erosion and depletion. By the turn of the century, farmers replaced tobacco with an agricultural regimen of cereal crops, wheat, corn, oats and barley, and in turn increased the speed at which sediment was filling the Potomac.<sup>49</sup>

The evolution of Potomac agriculture was not without its challenges, especially as the American Revolution swept up the states of Maryland and Virginia. During times of peace,

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<sup>49</sup> For Robert Carter quote, see Louis Morton, *Robert Carter of Nomini Hall: A Virginia Tobacco Planter of the Eighteenth Century* (Princeton, NJ: Princeton University Press, 1945), 139-141. For quote about wheat adoption, see Johann David Schoepf, *In the Confederation: 1783-1784* Translated and Ed. Alfred J. Morrison (Philadelphia: William J. Campbell, 1911), 39-41. For further descriptions about soil exhaustion, crop adoption, and move away from tobacco, see Craven, *Soil Exhaustion in Virginia and Maryland*, 40-42, 66-71, 146-147; Cowdrey, *This Land, This South*, 31-33, 74-76. Wheat required more land to be profitable than tobacco, see Walsh, “Land Use, Settlement Patterns,” 241-243.

the river served as a highway for commerce, but during times of war the waters hastened the approach of danger and death. In 1776, Lord Dunmore attacked St. Mary's county with a fleet of seventy-two ships, ushering in the American Revolution on the Potomac. The river was a conduit for raiding by the British and a highway for their frigates, leaving a wake of burning plantations, destroyed fields, and homeless families. Every landing and wharf along the river provided a direct link to local plantations, farms, and county seats. British ships anchored off shore, shelling notable targets and plantations, while raiding parties of British soldiers marched from plantation to plantation. So great was the suffering, hundreds of families from southern Maryland left their homes for the relative safety and opportunity in Kentucky. The same scenario played out only decades later, with the burning of the White House and plundering of the countryside during the War of 1812. As would be so evident in the centuries to come, the river was both a blessing and a curse. During times of war, trade, occupation, and life found themselves at the mercy of the navy that owned the waters.<sup>50</sup>

Further up Potomac waters, the Residence Act of July 16, 1790 created the nation's capital along the shores of the river. Although not without controversy, the future site of Washington drew support from notable figures such as George Washington, Thomas Jefferson, and James Madison because of its location on the upper tidewater. The property comprised a blend of farms, tidal marshes, and swamps—hardly a fitting landscape for a

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<sup>50</sup> For Lord Dunmore, Maryland migration and the War of 1812, see Beitzell, *Life on the Potomac River*, 17-35; For tactics and destruction caused by British raiding parties, see Jeffrey M. O'Dell, "1972 Excavation at the Chantilly Manor House Site, Westmoreland County, Virginia," *Northern Neck of Virginia Historical Magazine* (Fall 1973): 2413-2419. Interestingly, local parents have been known to threaten misbehaving children with a tongue-in-cheek "the Redcoats will get you" in places like Westmoreland County. Legend and lore still resides in community memory.

future capital. But that did not faze the chief architect, Pierre Charles L'Enfant, who envisioned a capital of grand scale and beauty. The city could be raised from the mosquito-infested tidelands. L'Enfant would not bring the dream to reality, however, being relieved of his architectural duties in 1792, but the architects and engineers that succeeded him would not fail to follow in his ostentatious footsteps. Washington's placement on the Potomac was consequential for two reasons: it promised a future of large-scale development of federal buildings, forts, and residences; and it also imbued a symbolic significance to the river. It became a cornerstone to the nation.<sup>51</sup>

The grandiose vision of the city's founders was slow to materialize as the city lacked both funds and infrastructure. Despite funding setbacks, Thomas Jefferson ensured Washington's development with the establishment of the U.S. Army Corps of Engineers in 1802. Development of the city started slow with the Corps focused on the repairing of buildings, like the Capitol, that sat in ruins after damage by the British in the War of 1812. The early nineteenth century capital was far from L'Enfant's envisioned metropolis. In October 1834, a traffic count on the Long Bridge over the Potomac demonstrated the state and function of the newborn city, with "3,700 foot passengers, 1,200 horses, 700 cattle, 300 hogs, 200 stage coaches, 400 carriages, and 2,500 miscellaneous vehicles." The traffic speaks to the rural nature of the capital and proximity to its agricultural surroundings. It was not until the 1840s that construction of federal facilities and population growth truly commenced (see figure 5). Even with muddy roads and an unbecoming surrounding, the capital cemented

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<sup>51</sup> Albert E. Cowdrey, *A City for the Nation: The Army Engineers and the Building of Washington, D.C., 1790-1967* (Washington, D.C.: U.S. Government Printing Office, 1979), 3-22.

massive improvement projects, residential construction, and American environmental visions in the river's future.<sup>52</sup>

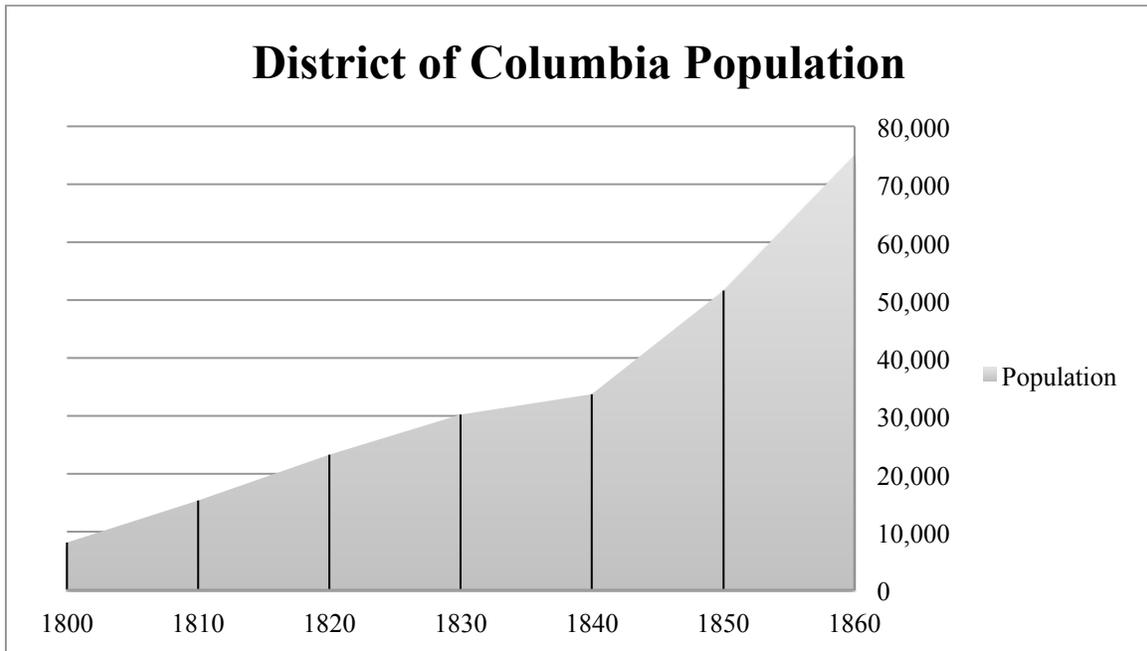


Figure 5. Mid-nineteenth century population growth of Washington, D.C.

Even with slow development and population growth, the environmental consequences of the city's placement did not take long to manifest. The capital's location promised access

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<sup>52</sup> For quote, see Cowdrey, *A City for the Nation*, 14. For Corps of Engineers and the development of Washington, see Sacket L. Duryee, *A Historical Summary of the Work of the Corps of Engineers in Washington, D.C. and Vicinity, 1852-1952* (Washington: The Washington Engineer District and Colonel Alan J. McCutchen, 1952), 1-15. For Washington, D.C population, see U.S. Census Bureau, "Historical Census Statistics on Population Totals By Race, 1790 to 1990, and By Hispanic Origin, 1970 to 1990, For The United States, Regions, Divisions, and States," by Campbell Gibson and Kay Jung under the Population Division, <http://www.census.gov/population/www/documentation/twps0056/twps0056.html> (accessed March 31, 2014).

to trade along the waterfront, but by the early nineteenth century the harbors of the upper Potomac threatened to fill with sediment. Upper tidewater harbors in Georgetown and Washington found the land closing in around them as forest clearance and waterfront development increased runoff. As early as 1805, workers used “mud-machines” to remove the growing shoals along the Virginia shore. Shortly thereafter, the government constructed a jetty in the main channel to increase water velocity and reduce sedimentation near Washington, all the while continually dredging the main channel near Georgetown. The young capital found itself in a perpetual battle to maintain navigability and use of the river.<sup>53</sup>

As Washingtonians struggled to coexist within their surroundings, farmers also faced obstacles in a region with exhausted soils. Embracing “high farming,” an enlightenment-inspired idea, many farmers used deep plows to clean till the land while supplementing soils with new fertilizers. The decades between 1810 and 1860 became a time of agricultural experimentation and collectivization. With all tidewater property claimed or the pine-filled remnants of old tobacco exploits, farmers and plantation owners chose to invest in their existing lands. Describing thoughts on farming is difficult, particularly since the physical property, local agricultural ideas, past experiences, and future expectations all play a role in how a grower utilizes and manages a farm or plantation, but this period saw the questioning of established agricultural principles and the desire for learning from other cultivators. Techniques like deep plowing continued to be employed, while farmers explored new additives to raise the fertility of the soil. Gypsum, clover, soot, ashes, lime, straw, manure,

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<sup>53</sup> Sedimentation and channel issues, see Beitzell, *Life on the Potomac River*, 26-28. For additional descriptions and note of “mud machines,” see Duryee, *A Historical Summary of the Work of the Corps of Engineers*, 38-39.

legumes, marl, and plaster saw utilization on farms, while new methods of fallowing and crop rotation let the land rest. The increased use of manure in fields led to the growth of animal husbandry to supply fertilizer. After centuries of taking nutrients from the tidewater landscape, growers faced the challenge of how to get nutrients back into the ground. With each experiment the influx of nutrients into the Potomac grew, slowly and methodically changing the physiology of the river.<sup>54</sup>

The development of agricultural societies gathered steam in 1810 throughout eastern Virginia. Groups established a communication network for farmers in specific geographic regions, giving them a stage for voicing opinions, suggestions, and asking questions. Mr. George Hay, secretary of the Richmond Agricultural Society, noted their purpose was “to collect all the practical agricultural knowledge of the country and convey it to the public in the way which may be deemed most conducive to the general welfare.” Exploration to improve “the public stock of agricultural information” found encouragement in societies across the tidewater. The collectivization of tidewater farmers indicated a desire to combat the restoration challenges of a post-tobacco landscape. Maintaining a viable farm in worn out and eroded land necessitated the growth and sharing of local agricultural knowledge. Local knowledge, new fertilizers, and shared farming techniques in the mid-nineteenth century led

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<sup>54</sup> For the rise of societies and farm experimentation and practice, see Craven, *Soil Exhaustion in Virginia and Maryland*, 104-114, 122-125; Walsh, “Land Use, Settlement Patterns,” 221-244; For Enlightenment inspired agriculture practices and deep plowing, see Carville Earle and Ronald Hoffman, “Genteel Erosion: The Ecological Consequences of Agrarian Reform in the Chesapeake, 1730-1840,” in *Discovering the Chesapeake: The History of an Ecosystem*, eds. Philip D. Curtin, Grace S. Brush, and George W. Fisher (Baltimore: Johns Hopkins University Press, 2001), 285-290; Craven, *Soil Exhaustion in Virginia and Maryland*, 90-105.

to the diversification of both small and large farms and the potential of profitable agriculture.<sup>55</sup>

Agriculture developed slowly in Virginia and Maryland. With little unclaimed, cultivable land left in the region, agriculturalist Edward Ruffin saw imperative in the salvation of Virginia farmers through the “improvements of the soil, and the consequent increase means of subsistence.” To do so meant improving the soil through good farm management and understanding the needs of the soil, skills sorely lacking according to Ruffin. In describing Virginia’s progress, he noted “it must be confessed that over a large portion of our territory, the good farming which is founded on, and mainly consists in, economy of means and fertilization of the soil, has yet to be introduced.” Ruffin felt the lack of progress rested on five weaknesses: a lack of information and knowledge concerning farm management, a lack of understanding about soil and its needs, a lack of instruction and teaching on correct methods, constantly changing property boundaries, and finally the deflation of land value and emigration caused by cheap land in the West. Ruffin saw potential in the tidewater region of Virginia, but reaching that potential hinged on the abilities and understanding of farmers. Although farmers made progress in the mid-

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<sup>55</sup> For quote, see David Wiley, ed., *Farmer and Manufacturer, and the Means of a Free Communication of Sentiment, and General Interchange of Ideas, on the Important Subjects of their Occupations* (Georgetown: W. A. Rind, 1811), 329. For rise of societies and collectivization of agricultural knowledge, see Craven, *Soil Exhaustion in Virginia and Maryland*, 103-107.

nineteenth century in terms of yield, experimentation, and diversification, the implementation of agricultural knowledge remained somewhat variable and limited.<sup>56</sup>

Decades in the making, local agricultural knowledge and fertilizers eventually did transform the landscape into a productive setting of rolling hills, farms and, plantations among forests of pines and hardwood. Virginians replaced tobacco with corn, wheat, barley, and animal husbandry. In 1850, the Virginia tidewater counties along the river produced 1,280,032 bushels of corn, 386,190 bushels of wheat, 271,700 pounds of butter, 104,364 bushels of oats, 15,093 bushels of sweet potatoes, and 8,747 tons of hay. The labor required to produce such an agricultural bounty required 19,774 slaves or 41 percent of the county populations. Dairy farming concentrated around Washington, while the more distant counties to the east relied on slaves and pork production in a southern-model of plantation and cultivation (see figure 6).<sup>57</sup>

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<sup>56</sup> Edmund Ruffin, "Production as Moral Imperative: The Morals of Agriculture (1822)," in *Nature's Management: Writings on Landscape and Reform, 1822-1859, Edmund Ruffin*, edited by Jack Temple Kirby (Athens: The University of Georgia Press, 2000), 3-8; Edmund Ruffin, "The Old Dominion's Declension: Sketch of the Progress of Agriculture in Virginia, and the Causes of Its Decline (1836)," in *Nature's Management: Writings on Landscape and Reform, 1822-1859, Edmund Ruffin*, edited by Jack Temple Kirby (Athens: The University of Georgia Press, 2000), 14-34.

<sup>57</sup> Statistics can be found in Richard Edwards, *Statistical Gazetteer of the State of Virginia, Embracing Important Topographical and Historical Information from Recent and Original Sources* (Richmond: Published for the Proprietor, 1855), 231, 283, 329-331, 349-351, 385, 407-409. The statistics include Northumberland, Westmoreland, King George, Stafford, Prince William, and Fairfax counties along the southwest banks of the Potomac. The population percentages are based on 28,463 free individuals (white and black) and 19,774 slaves. This information was also used in figure 6.

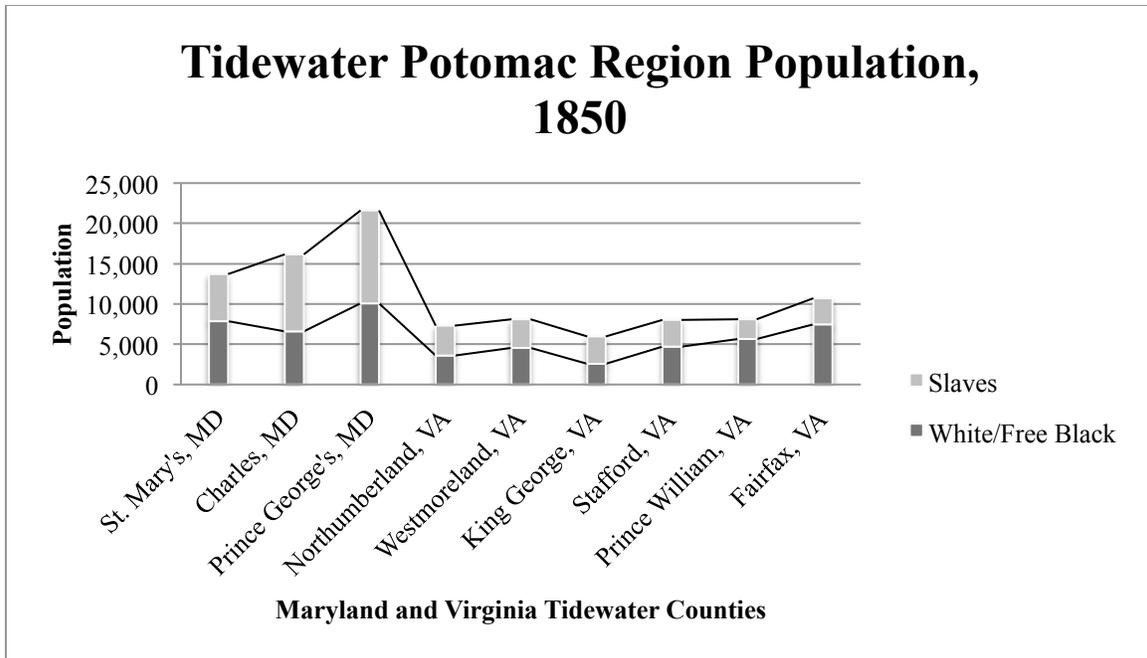


Figure 6. Potomac tidewater counties relied heavily on slavery for agricultural production.

Across the water, Maryland shared many of the same characteristics as Virginia in the 1850s. Much of the soil in eastern counties like St. Mary's, once "kind and productive," lay exhausted by tobacco. But in concert with the farms in tidewater Virginia, farmers tended to the exhausted soils using fertilizer like clover, plaster, ash, bone-dust, salts, lime and guano. Fertilizers spurred on agriculture. Counties bordering the river produced 537,589 bushels of wheat, 2,426,854 bushels of corn, 216,112 pounds of butter, and 6,233 tons of hay. Like the western tidewater Virginia, animal husbandry became increasingly important as one traveled up the river, with 9,445 dairy cows, 29,165 sheep, and 51,698 swine browsing the land. Interestingly, the three counties in Maryland relied more heavily on slaves than the Northern Neck of Virginia, with 52 percent of the population forced to work plantations and farms. By

1850, despite problems with soil exhaustion and abandoned fields, the tidewater Potomac agricultural machine hummed along at breakneck pace. But the restoration of the land took a heavy toll on the river. As farmers increasingly relied on fertilizers, the river absorbed ever-growing levels of nitrogen and phosphorus as soil washed from the fields into the water.<sup>58</sup>

Like the landscape of the Potomac, the waters of the river grew in value to locals throughout the nineteenth century. Baltimore's growth as the hub for seafood and packing in the Chesapeake encouraged a fishing industry for oysters and fish to supply the market. That growth coincided with the arrival of oystermen from the North, particularly from Connecticut and Massachusetts, with experience in the harvesting, packing, and shipping of oysters. Finding oysters scarce in their own waters, these entrepreneurs brought the oyster dredge to the Chesapeake. The device allowed oystermen to scour the river and bay bottom, bringing up higher yields with an efficiency oyster tongs could never match. The devastating efficiency of the new technology forced Maryland and Virginia to ban the new technology. But this did little to deter the rise of the oyster industry. Historian John Wennersten described the arrival as a "great oyster rush" as Northerners brought new packing facilities, expertise, and technology to a largely undeveloped resource. In 1836, entrepreneurs established the first raw oyster packinghouse in Baltimore, followed by the first steam packinghouse in 1848. Coupled with the extension of the Baltimore and Ohio Railroad in 1850s, Baltimore could now supply oysters to markets in the West. While Native Americans, settlers, and local

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<sup>58</sup> Agricultural statistics can be found in Jos. C. G. Kennedy, *History and Statistics of the State of Maryland, According to the Returns of the Seventh Census of the United States, 1850* (Washington: Gideon & Co., 1852), 12-14, 23-25, 37-38. The amount of tobacco produced in Maryland during this period is hard to determine as only Charles County recorded the numbers for that particular crop. The information was also used in figure 6.

Americans had always relied on Potomac oysters, the growth of harvesting technology and transportation infrastructure in the mid-nineteenth century laid the foundation for the postbellum oyster industry. Local transportation and shipment of oysters to market elevated the value of the river as a material resource (see figure 7).<sup>59</sup>

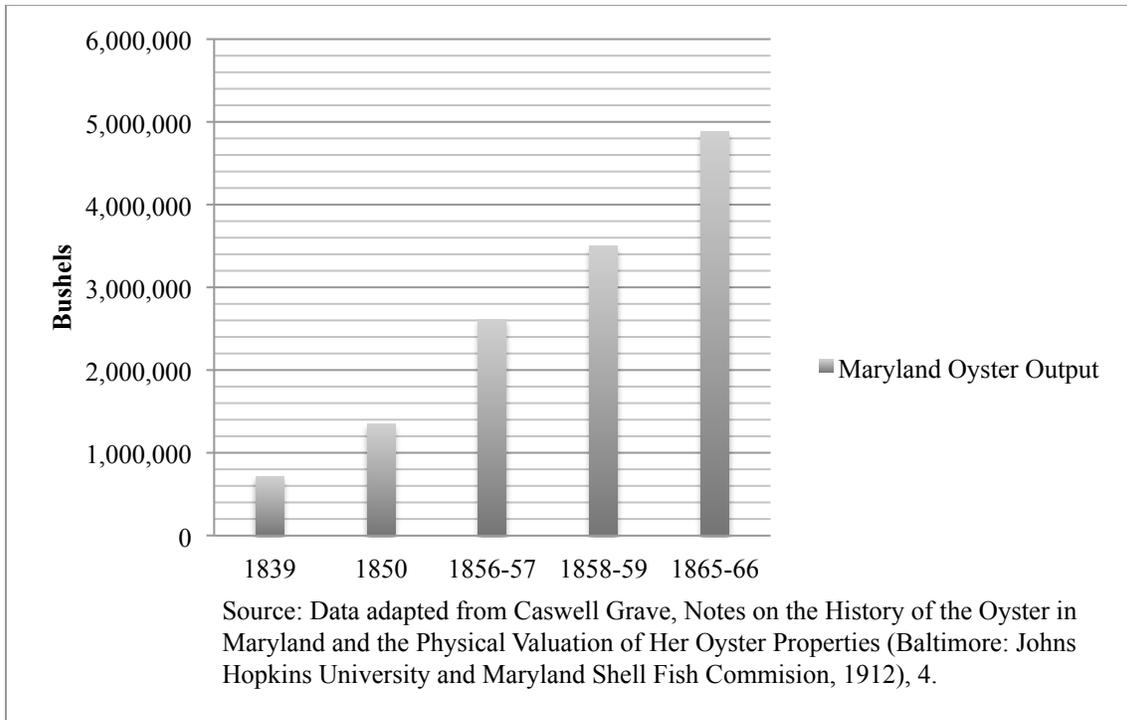


Figure 7. Harvests started slow but grew quickly through the mid-nineteenth century.

But the cultivation of the land and momentum of the growing fishing industry all changed with the firing on Fort Sumter. The Civil War disrupted farming and fishing,

<sup>59</sup> For the first packing plants, see Charles Yates, *Survey of Oyster Bars of Maryland, 1906-1912* (Washington, DC: Government Printing Office, 1913); For the early development of the industry, see Keiner, *The Oyster Question*, 32-35. For description of early industry and quote, see John Wennersten, *The Oyster Wars of Chesapeake Bay* (Centreville, MD: Tidewater Publishers, 1981), 13-36.

produced environmental consequences, and gave a whole new meaning to the region in a war-torn nation. To the Union, it was a natural divide with the Confederacy, as well as a highway for transporting troops from Northern Virginia to the rivers bisecting tidewater Virginia. To the South, the Potomac challenged Southern hegemony in Northern Virginia and Southern Maryland by way of a larger Union Navy. But it too, was an outlet for nighttime raids, strategic posturing, and smuggling to sympathetic Marylanders. Top Union officials used the river to travel and assess the war's progress, concluding with a trip down the river by President Abraham Lincoln to meet General Grant at the surrender of Richmond in 1865. Yet, even as the waters carried Lincoln to the war's ending, they too, carried his assassin John Wilkes Booth as he fled Washington. The river was at once a dividing line, a highway, and an instrument of warfare for the North and the South.<sup>60</sup>

Like the American Revolutionary War and War of 1812, the Civil War again transformed the river to a place of uncertainty and borders. In 1860, approximately 135 watermen worked the river in the lower tidewater counties, but by 1870 only 63 men identified themselves as watermen in the same counties—a drop of nearly 53 percent. The Federal blockade of the river made the water a dangerous occupation, especially with Union authorities keenly interested in the possibility of Confederate raiding, smuggling, and sabotage. Together with the confiscation of vessels for war, watermen found little option than joining the war or finding a new livelihood. Batteries along the southern shoreline looked to prohibit the unbridled use of the river by the Union navy (see figure 8). During the early stages of the war, Southern raiders successfully sabotaged both lightships and buoys along

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<sup>60</sup> For note about Lincoln and Booth, see Beitzell, *Life on the Potomac River*, 47.

the river to hinder navigation while smuggling desperately needed supplies for the Confederacy. In response, the Federal Navy obligingly posted ships along the wharfs and creeks of the river to combat the raiders. Despite the show of force, local knowledge provided a means for Confederates to evade the Union authorities and maintain communications with pro-secessionists in southern Maryland. The river proved a porous boundary. Both Union and Confederates staged raids into the opposing countryside as the end of the war neared. In 1864, the Northern Neck saw four separate raids by Union troops, resulting in the destruction of property, confiscation of slaves, and skirmishes with the Confederate Home Guard. The same year Confederate raiders destroyed a key lighthouse on St. Clement's island, approximately twenty miles from the mouth of the river. The river was never quite secure for either side, yet, both sides tried hard to control it. The Potomac symbolized the tenuousness of the divided nation and the owner controlled the country's fate.<sup>61</sup>

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<sup>61</sup> For watermen numbers and the use of the river as a battery and route for raiding, sabotaging, and smuggling, see Beitzell, *Life on the Potomac River*, 35-48, 164-168. These numbers can be found in Appendix C of Beitzell's work. The counties included St. Mary's and Charles Counties in Maryland, along with Northumberland, Westmoreland, and King George Counties in Virginia. Confederates attempted to stymie the Union navy with the use of shoreline batteries, see "The Close of the Potomac—Another Rebel Triumph," *The New York Times*, September 29, 1861. For examples of smuggling and a "notorious blockade runner," along with communication on the Potomac, see "The Lower Potomac: The Rebels at Yate's Point—Attempt to Destroy a Transport," *The New York Times*, July 22, 1863; "From the Army of the Potomac: Great Improvement in the Morale of the Army—Good Discipline—A Deserter Shot—Interruption of Contraband Trade Across the Lower Potomac, etc..." *The New York Times*, February 23, 1863; "From the Lower Potomac: The Election—Arrests—Port Tobacco—The Excelsior Brigade—No Battery on Mathias Point—It is Shelled by our Gunboats—Our Troops Anxious for a Fight," *The New York Times*, November 17, 1861. For figure 8 see, Robert Knox Sneden, "Blockade of the Potomac – by

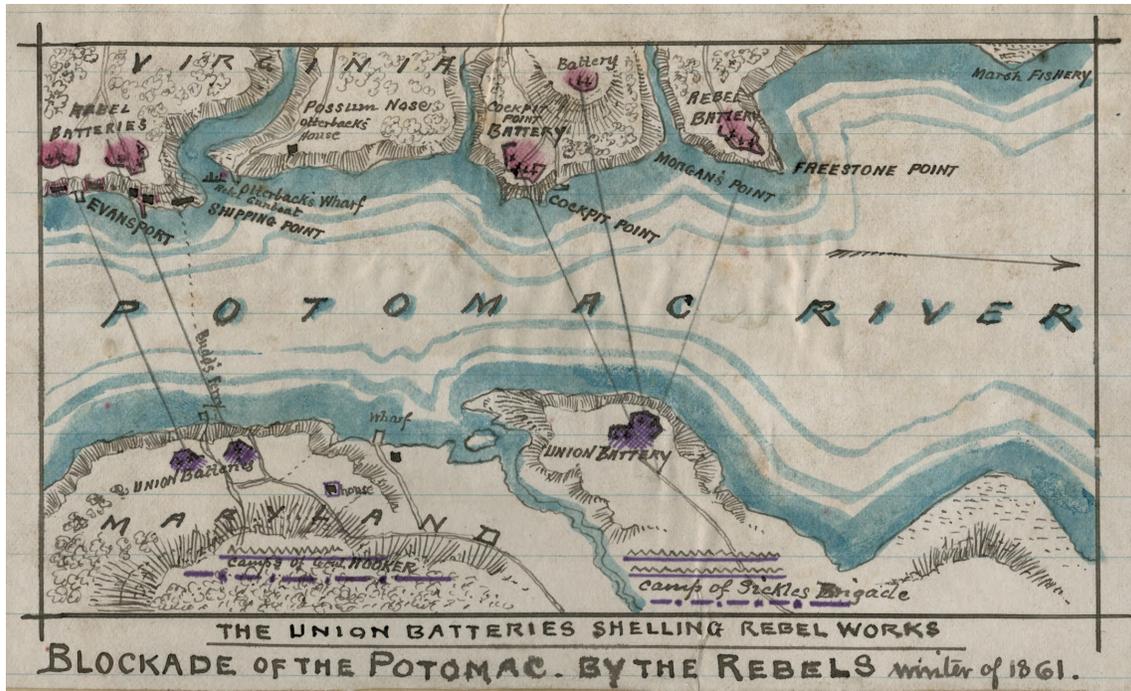


Figure 8. Sketch illustrates the fluid nature of the Potomac boundary during the war.

The Civil War on the Potomac shared little with the dramatic, pitched battles of the inland campaigns, but resembled a fluid boundary of changing ownership. The U.S. Navy enjoyed military superiority on the water, but was hard pressed to combat the guerilla and raiding tactics of a southern population that knew the landscape. The Potomac could not be fully secured or owned as the physical geography and local knowledge prohibited full subjugation. The tension of an unsecured Potomac boundary permeates the lines of a song entitled, *The Picket Guard*. A sniper's bullet was an ever-present danger:

...He passes the fountain, the blasted pine tree,  
 The footstep is lagging and weary;  
 Yet onward he goes, through the broad belt of light.

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Rebels, winter of 1861," Library of Congress, Geography and Map Division, Library of Virginia, Map Collection, The Virginia Historical Society.

Toward the shade of the forest so dreary.  
Hark! Was it the night-wind that rustled the leaves?  
Was it moonlight so wondrously flashing?  
It looks like a rifle—"Ha! Mary, good by,"  
And the life blood is ebbing and plashing.

All quiet along the Potomac to-night,  
No sound save the rush of the river;  
While soft falls the dew on the face of the dead,  
The Picket's off duty forever.<sup>62</sup>

The Potomac landscape was a backdrop for the larger drama of the war, but one that kept the highest general to the lowliest picket on their toes. War also unveiled the river to the nation as hundreds of thousands of troops and officials experienced the river's beauty as transports carried them on to the front lines. The military importance of the river as a highway revealed the landscape to each passerby as transports cut through the water.

The human cost of the Civil War rightfully receives the majority of scholarly attention as one of the country's bloodiest conflicts, but scholars have yet to reveal the environmental transformation and cumulative effects of the war. In the name of defense, both the North and the South surveyed entire coastlines for defensive positions, pioneered new roads and railroads, quarried stone and harvested timber for trenches and forts, and turned shorelines into batteries. As the war shaped the nation, it too shaped the American landscape, and perhaps more importantly, it familiarized the nation with American capacity to alter the environment on an unprecedented scale. The U.S. Army Corps of Engineers became skilled

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<sup>62</sup> Johnson, "The Picket Guard," in *Johnson's new catalogue of songs* (Philadelphia: Johnson, 1862).

in the development and construction of forts and structures along the Potomac shoreline by the end of the war.<sup>63</sup>

The defense of Washington, D.C. required the hard work and innovation of the U.S. Army Corps of Engineers. With forty-eight defense works harboring over 300 guns in 1862, the nation's capital became the best-defended city by the war's end with seventy-four forts and batteries holding over 905 guns of various calibers. Engineers nestled many of these positions deep into the Potomac shores. The war also forced an evolution in the types of coastal fortifications by phasing out stone masonry for earthen works. New advances in weaponry rendered masonry walls extremely susceptible to artillery, while earth provided better protection through absorption of energy and was much cheaper to replace and source. The use of earthen works and structures, however, required immense amounts of timber and earthmoving. The war transformed the bluffs above the river, as earth was mounded for protection, forests were cleared for sightlines and building materials, and the shoreline fortified against bombardment (see figure 9). Each aspect of the forts required timber. Large caliber batteries required durable wood beds made out of cedar, chestnut, and oak, while soldiers needed firewood, and the construction of fortifications required "gabion, fascines, and fraise." The scale of landscape confiscation and alteration was a point of concern for

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<sup>63</sup> For a technological examination of railroads in the North and South during the Civil War, see William G. Thomas, *The Iron Way: Railroads, the Civil War and the Making of Modern America* (New Haven: Yale University Press, 2011); or see Robert S. Browning III, *Two if by Sea: The Development of American Coastal Defense Policy* (Westport, CT: Greenwood Press, 1983) for an overview of evolving military coastal defenses from the seventeenth through twentieth centuries. Both works view the changes from a technological or military perspective, but provide little information on the extent of how the technologies altered the landscape during wartime.

Brigadier-General Richard Delafield in 1865, as restoring land and materials to owners became necessary. The incredible amounts of natural resources consumed during the war forced an expensive proposition on military leaders—to address the “use of the ground, changes, alterations, and removal of fences, woods, trees, and all others made by the authorities of the United States.” By war’s end, the Potomac had been physically transformed and elevated to a national stage.<sup>64</sup>

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<sup>64</sup> For a visual display of the extent of military defenses, see “Army map of the seat of war in Virginia, showing the battle fields, fortifications, etc. on & near the Potomac River” New-York and Washington, D.C., J. Disturnell and Hudson Taylor, 1862. For a description of defense works, see Duryee, *A Historical Summary of the Work of the Corps of Engineers*, 25. Quotes and information on Civil War fort dismantling, see United States Department of Interior, *A Historic Resources Study: The Civil War Defenses of Washington, Part II* (Chevy Chase, MD: CEHP, Incorporated, 1998), 6-10. For the changing sea defense methods and practice, see Browning III, *Two if by Sea*, 128-132. For figure 9, see U.S. Signal Corps Photo of “Battery Rodgers with Rodman Gun,” ca. 1861-1865, Brady Collection, National Archives.



Figure 9. Washington required a large defense network with a clear line of site.

Between John Smith's arrival and the dawn of the Civil War, the transformation of the Potomac altered both the water and the shoreline. Sediment filled the river; nutrients altered the ecosystem, while fishing and harvesting picked up steam before the war. Europeans arrived in a landscape produced by both physical processes and Native American management. The landscape was constantly reshaped by wind, rain, and water; while altered and manipulated to suit the needs of Native Americans. With Europeans came new technology and economies, and a different mindset in evaluating and interacting with the landscape. Row agriculture, husbandry, metal tools, and global markets altered the role of the landscape, and in turn, the physical realities of the environment. The Potomac demonstrated a

beautifully complex relationship between the physical forces of nature and the changing needs of the societies along its banks.

Maintained by Native American use of fire, the vast forests, cathedral canopies, and sparse undergrowth disappeared as fragmented stands with heavy undergrowth and the rows of open fields replaced them. By 1860, most land along the river had been cutover multiple times. This alteration of animal habitat, along with direct predation by humans, introduction of foreign species, and introduction of new pathogens, caused the extinction or redistribution of a number of species. No longer would species like the Labrador duck, Carolina parakeet, prairie chicken, or gray wolf grace the shores and forest trails of the Potomac. European settlement transformed a variable, forested landscape into a fragmented patchwork of habitats.<sup>65</sup>

By the mid-nineteenth century, European agriculture, technology, and commerce had reshaped the Potomac environment into a money making machine. People worked really hard to make the conditions that would lead to the consequences that showed up on the land and in the river. Between 1760 and 1860, soil erosion in the Chesapeake region increased sedimentation from four to ten times pre-colonial levels, beginning a shift in an ecosystem of bottom-dwelling organisms like grasses to one of floating and swimming organisms like

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<sup>65</sup> For habitat fragmentation, see Brush, "Forests Before and After," 40-57; For species loss and decline, see David W. Steadman, "A Long-Term History of Terrestrial Birds and Mammals in the Chesapeake-Susquehanna Watershed," in *Discovering the Chesapeake: The History of an Ecosystem*, eds. Philip D. Curtin, Grace S. Brush, and George W. Fisher (Baltimore: Johns Hopkins University Press, 2001), 100-107. The populations and distributions of terrestrial mammals prior to European settlement are hard to determine. Primary accounts and records are lacking, and European accounts are hardly comprehensive. Archaeological and scientific evidence provides at least a snapshot of pre-European composition.

diatoms. The influx of such high levels of sediment also deepened gullies along ridges, filled in creek beds, raised the river floor, and smothered bottom dwelling organisms like grasses and oysters. These changes followed a century of policy and law intended to maximize production of export commodities. The experimentation and collectivization of agricultural knowledge, in response to tobacco exhaustion, spurred an increase in the amount of nutrient runoff from manure, fertilizer, and other additives. Affected by an influx in phosphorus and nitrogen, the river's physiology began to change, altering the distribution of organisms and destroying habitat. The alteration of the landscape also transformed the hydrology of the Potomac. By clearing forests for agriculture and fortifications, runoff reduced the salinity of the river. By the end of the war, the river was dramatically different than the Potomac of John Smith.<sup>66</sup>

The Civil War not only changed the physical landscape, it elevated the cultural significance of the river through the founding of the nation's capital. It was the nation's river, home to the nation's most important city, and an instrument in preserving the Union. The river's beauty contrasted with the butchery of the war and provided contemplation in the midst of chaos. Yet the war also highlighted a tension that would grow in the coming years, the juxtaposition between locals and those new to the landscape. The biggest changes for the

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<sup>66</sup> Technology like the plow altered the landscape, see Cowdrey, *This Land, This South*, 32. For sedimentation and nutrient input, see Pritchard and Schubel, "Human Influences," 72-81. For forest fragmentation and sedimentation, see Brush, "Forests Before and After," 55-58. For changing water quality, salinity, and harvesting technology, see Kennedy and Mountford, "Human Influences on Aquatic Resources," 193-203; R. B. Biggs, "Freshwater inflow to estuaries, short- and long-term perspectives," in *Proceedings of the National Symposium on Freshwater Inflow to Estuaries*, v. 2. *Coastal Ecosystems Project*, ed. Ralph D. Cross and Donald L. Williams (Washington, D.C: United States Fish and Wildlife Service).

Potomac were yet to come, but the current of change was well underway by the close of the Civil War.

## Chapter Two: The “San Francisco Valley of the East”

In August 1865, Mr. John Tayloe, a prominent member of Northern Neck society, took out an advertisement in Boston’s *Traveller*. Bemoaning the laziness of poor whites and blacks of the region, Mr. Tayloe urged hardworking “Yankee agriculturists” to purchase or lease land along the Potomac, offering the hospitality and use of his own farm to any interested parties. “The salubrity of the climate is so great...and the fertility of the soil is wonderful to relate,” Mr. Tayloe reasoned, “It is unequalled...in Virginia for productiveness.” Located on the banks of the river, the region’s “market facilities, too, are unsurpassed” when compared to other regions of the South. Mr. Tayloe’s advertisement, immediately on the heels of the Civil War, speaks to the unrealized agricultural and commercial potential of the Potomac. The heart of Tayloe’s concern rested with the river’s untapped potential. In fact, within a few years, the post-war Potomac became part of the biggest fishery in the East, a productive agricultural region, and a popular resort destination for the middle Atlantic coast. It all centered on the river.<sup>67</sup>

To understand the complex evolution of a post-war Virginia and Maryland landscape, this chapter uncovers the driving material and recreational forces behind the Potomac’s story from 1865 to the turn of the century. The Potomac emerged as a national symbol after the war, fostering a landscape of recreation, health, and leisure while serving as a materially

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<sup>67</sup> “Superior Advantages For Agriculturists,” *The Norfolk Post*, August 15, 1865. I was unable to locate the advertisement in the *Traveller*. Ironically, I found a description of the advertisement in *The Norfolk Post* within an article refuting Tayloe’s claim of the Northern Neck as the most productive region in Virginia. The article positioned the Norfolk area as a more productive and pleasant region than along the Potomac. Courting northern investors appears to have been a widespread practice after the war in tidewater Virginia.

valuable place of work. Residents looked to flee the stuffy confines of the capital, fueling the growth of popular recreation destinations along the shoreline. The influx of visitors fostered a rising symbolism that combined the romanticism of the late nineteenth century with the historical importance of the river. Yet, the value of the river to the nation and metropolitan Washingtonians coexisted with watermen and farmers who plied the river's water and tilled the shoreline soil. Although farms and fishing existed before the war, the post-war years led to an incredible increase in productivity and industry development. Each of these values competed in the minds of Washingtonians, Virginians, and Marylanders for social primacy in the late nineteenth and early twentieth centuries. After the Civil War, the Potomac became far more than a physical landscape; it embodied a confluence of past significance, unrealized potential, and future visions. But over the course of the following half-century, the physical changes and decline in water quality altered the visions of the people that used the shoreline, harbors, and channels.

As the bloodshed of the Civil War subsided, the nation's capital harbored a renewed vigor, full of potential and opportunity—and so did its environment. Yet the region had problems, a patchwork of rundown land and malaria-infested swamps recovering from the Civil War. But as Washingtonian George Townsend recalled, the Potomac landscape was the “most enjoyable part of the whole Atlantic slope,” the “San Francisco Valley of the East.” Exhausted soils could be “brought up slowly by plaster and clover,” and swamps could be drained and the “ague” driven off. Americans needed only ingenuity and hard work to improve the environment. Channels could be straightened, harbors dredged, and new species

of fish introduced. Washingtonians hoped for a landscape fitting of the nation's capital, while watermen and farmers strove for realization of material potential along the rural banks of the tidewater river.<sup>68</sup>

The Civil War devastated farms throughout Virginia. Farmers worked hard to regain the progress and production of the pre-war years as both Union and Confederate armies had confiscated and destroyed crops, farmland, and livestock. In the ten years between 1860 and 1870, horses, cows, and swine decreased by a combined 32 percent across the South. By the 1870s, however, farmers rebuilt the livestock population. In two Potomac counties alone, the 2,040 horses and mules, 8,870 cattle, 4,880 sheep, and 10,960 swine far outnumbered the 14,545 residents. Growers planted familiar staples like corn, wheat, oats, melons, tobacco, peas, potatoes, and peanuts for local markets and limited export to Washington and Baltimore. Farmers also sought new avenues of profit by planting orchards, cutting timber, and raising poultry for metropolitan consumers. Agriculture rebounded in the 1870s with the help of traditional crops and diversified farms, keeping many farmers out of debt while providing local communities with plenty of food for the table.<sup>69</sup>

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<sup>68</sup> George Alfred Townsend, *Washington, Outside and Inside: A Picture and a Narrative of the Origin, Growth, Excellences, Abuses, Beauties, and Personages of our Governing City* (Cincinnati: S. M. Betts & Company, 1874) 179, 734-735.

<sup>69</sup> For livestock percentages, see Cowdrey, *This Land, This South*, 105-106. For number of livestock along the Potomac, see "Northumberland County," *The Northern Neck News*, July 15, 1879; "Westmoreland County," *The Northern Neck News*, July 15, 1879. Typical of the region in 1877, farms in Northumberland County, Virginia shipped chickens and turkeys to market, along with between 800 to 1,000 barrels of eggs. The numbers included in this paragraph are approximate due to the poor condition of the microfilm and the possibility of census error. For more on the profitability of poultry farming, see "What Poultry Pays," *The Northern Neck News*, September 5, 1879. For information on timber cutting, see "The Time to Cut Timber," *The Northern Neck News*, September 9, 1881.

Reinvigorated farms along the Potomac owed much to the expanding trade network along the Chesapeake Bay. Growers experimented with a variety of imported and local fertilizers and additives to realize the landscape's potential. Much like the early nineteenth century, farmers considered ways to improve the "thin" soils of the Potomac region. By the 1870s, locals used "fish guano" along with superphosphates, ammonia, and potash from all along the Atlantic coast. Cultivators experimented with new crop varieties from dealers in Baltimore and farther afield. Notwithstanding these new advantages, growers still relied on traditional methods of farm management. One farmer expressed such sentiment, "satisfied that fertilizers never pay as well as when used in conjunction with fallows or a slight dressing of barn-yard manure." Coupled with the traditional methods of farm management like fallow fields, crop rotations, girdling trees, or the application of green manure and swamp muck, a growing list of additives increased the methods by which farmers could protect and enrich their soils to enhance productivity. Growers also found imported fertilizers priced competitively with local options like crushed oyster shells and "fish guano." The emerging network of agricultural products afforded the possibility for a wider variety of crops and improved on existing farm management techniques to enrich the region's soil.<sup>70</sup>

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<sup>70</sup> For the quote about traditional techniques and fertilizers, see "Lime, Fertilizers, and Green Fallow," *The Northern Neck News*, September 26, 1879. The author of this article specifically mentions the use of "Etiwan ammoniated," a "South Carolina Rock, with four percent, of each, ammonia and potash." In addition, the author describes an order from a Baltimore dealer for "early Rose" potatoes (although the dealer accidentally sent "late Rose" potatoes instead). For more on the application of homemade fish guano, see "Fish Guano," *The Northern Neck News*, May 16, 1879. For more on the girdling of trees for increased yield, see "Girdling Trees and Vines," *The Northern Neck News*, June 4, 1880. For an examination of the nutrient qualities of swamp soil, see "Value of Swamp Muck," *The Northern Neck News*, May 14, 1880. For problems with erosion and need for fertilizer, see

As farmers diversified and imported agricultural products, farm management practices exacerbated and increased the influx of nutrients into the Potomac. Many growers continued to use deep plowing methods that vastly increased the rate of erosion and runoff. No farmer intentionally erodes his or her own soil, but management techniques varied from farm to farm, as did the consequences. Farmers knew that techniques like plowing with the contours of the land, planting cover crops, or careful selection of cleared land significantly decreased erosion. And, in fact, locals did begin to move away from methods like deep plowing in the 1880s. “Deep plowing is not in the favor it was a few years ago,” explained one Virginian who was quick to note how “in some localities and soils it is absolutely injurious.” Even those who still practice deep plowing, he said, no longer “commend it as the grand panacea for all the evils of poor soil and imperfect culture as was common a few years ago.” Nevertheless, there was no wholesale rejection of the practice. Some Potomac farmers persisted with the method into the twentieth century. Responsible farming practices depended on the prerogatives of each landowner, so the methods of fertilization and cultivation differed on every farm. Growers pursued their own prescription for the region’s ‘thin’ soils, but realizing the potential of the land cost the river.<sup>71</sup>

In addition to farm practices, the commercial availability of additives fostered a growing utilization and reliance on affordable fertilizers. Such reliance raised the amount of

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“Success in Farming,” *The Northern Neck News*, March 18, 1881; Cowdrey, *This Land, This South*, 76.

<sup>71</sup> Paul Sutter, “What Gullies Mean: Georgia’s ‘Little Grand Canyon’ and Southern Environmental History,” *The Journal of Southern History* 76 (August 2010): 599-604; For quote and editorial on the practice of plowing, see “Deep Plowing,” *The Northern Neck News*, April 23, 1880. For more information, see Cowdrey, *This Land, This South*, 78.

nutrients entering the Potomac ecosystem. Nitrogen and phosphorus are found naturally and are crucial for ecosystem function. But when introduced in great quantities, excess nutrients can upset ecological balance. With every rainstorm, the excrement of cattle, swine, horses, sheep, and humans, along with the runoff of fertilizers like phosphates and fish scrap, flushed excess nutrients into the river. A history of tobacco cultivation meant many farms had to rely on additives like superphosphates to inject nutrients into the oft-beleaguered soils. The relatively acidic nature of tidewater soils also required the addition of lime to maintain a desirable pH level for crop production. One farmer in Maryland boasted of his wheat and corn production after adopting superphosphates and lime in the 1870s. By applying 200 to 300 pounds of lime and between 200 and 300 pounds of superphosphate over 650 to 700 acres, the farmer cultivated about 21 bushels of wheat for every acre. This application only reflects the fall crop of wheat and not the subsequent applications for spring corn. Some farmers even limed two to three times a year. Assuming the same process for all 700 acres of wheat, the farmer could have applied up to 210,000 pounds of superphosphates on the farm for just the fall crop. The numbers are likely exaggerated, but the implication of the editorial highlights the importance of additives for Potomac growers.<sup>72</sup>

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<sup>72</sup> For information on liming and phosphates, see Charles C. Mitchell, "Soil Acidity and Liming," Auburn University, [http://hubcap.clemson.edu/~blpprt/acidity2\\_review.html](http://hubcap.clemson.edu/~blpprt/acidity2_review.html) (accessed October 25, 2013); International Plant Nutrition Institute, "Nutrient Source Specifics: Single Superphosphate," [http://www.ipni.net/publication/nss.nsf/0/5540C741907C7657852579AF007689EC/\\$FILE/NSS-21%20SSP.pdf](http://www.ipni.net/publication/nss.nsf/0/5540C741907C7657852579AF007689EC/$FILE/NSS-21%20SSP.pdf) (accessed October, 25, 2013); For information on the application of phosphates and lime in the Potomac region, see "Superphosphate after Lime," *The Northern Neck News*, March 19, 1880. All numbers are estimates based on the figures included within the editorial.

Every application of fertilizer increased the amount of nutrients flowing into the Potomac environment. By 1880, Virginians and Marylanders had cleared 80 percent of the region's forests to make room for farmland, communities, and towns. Vast expanses of bare dirt fueled sediment erosion and nutrient runoff at rates many times higher than the pre-colonial landscape. Together, turbid water and excess nutrients led to the eutrophication of the river. Eutrophication is the process by which excess nitrogen and phosphorus induce excess growth of plants and algae. As silt clouded the water and less light reached the depths of the river, bottom-dwelling organisms like grasses, plants, and algae struggled while certain types of surface-organisms like algae and diatoms flourished in the nutrient-rich water. In extreme forms eutrophic environments lead to low-oxygen dead zones known as anoxic or hypoxic events. Short of oxygen depletion, however, eutrophication still influenced the ecological processes and life cycles of many of the river's creatures. From colonial settlement to the Civil War, the eutrophication of the water may have actually spurred extraordinary growth of the eastern oyster, *Crassostrea virginica*, as the filter-feeding bivalves consumed the blooms of algae. By 1860, however, as oysters' importance in Maryland and Virginia society deepened, oysters began to suffer from too much of a good thing. Low oxygen, cloudy water, and excess silt all hurt oysters' ability to reproduce and to grow.<sup>73</sup>

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<sup>73</sup> For a description of forest clearance and eutrophication, see Brush, "Forests Before and After," 55-58; Sherri R. Cooper and Grace S. Brush, "Long-Term History of Chesapeake Bay Anoxia," *Science* 254, no. 5034 (November 1991): 992-996; Kennedy and Mountford, "Human Influences," 191-194; W. R. Boynton, J. H. Garber, R. Summers and W.M. Kemp, "Inputs, Transformations, and Transport of Nitrogen and Phosphorus in Chesapeake Bay and Selected Tributaries," *Estuaries* 18, no. 1 (March 1995): 285-314; For information on the

The effects of eutrophication are symbolic of a larger upheaval—the intensified use of the Potomac landscape. Intensified production created a rapidly changing ecosystem. The agricultural boom of a post-war landscape sparked changes that would haunt both farmers and fishers in the century to come.

As farmers tilled the soil and transformed the shoreline, so, too, did locals ply the Potomac waters and harvest its resources. But it was a long road from the early nineteenth century oyster industry to the post-war years. Maryland and Virginia both banned dredging in the early nineteenth century in response to extensive harvesting by oyster boats from New England. Maryland legislation from the early nineteenth century to the Civil War focused primarily on the protection of oysters explicitly for the use of state residents. The 1820s to 1860s saw legal experimentation as the industry developed and outside oyster interests loomed. Limits on harvesting technology, state residency, county jurisdiction, and license fees characterized the state conservation practices in the antebellum years. Concern for the well being of a resource was not a twentieth century development; rather the roots spread back to the early years of industrialization. Despite Maryland’s attempt to preserve harvesting for state residents, northern capital and oyster experience flowed to the region. Oyster canneries opened in Baltimore during the 1840s, while northern capital sponsored local captains and northern boats evaded scant law enforcement. The oyster industry’s

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growth of oysters, see Michael X. Kirby and Henry M. Miller, “Response of a benthic suspension feeder (*Crassostrea virginica* Gmelin) to three centuries of anthropogenic eutrophication in Chesapeake Bay,” *Estuarine, Coastal and Shelf Science* 62 (2005): 679-689; Keiner, *Oyster Question*, 27-34. It appears low oxygen events and eutrophication began to increase in the eighteenth and nineteenth centuries, see Thomas M. Cronin and Cheryl D. Vann, “The Sedimentary Record of Climatic and Anthropogenic Influence on the Patuxent Estuary and Chesapeake Bay Ecosystems,” *Estuaries* 26, no. 2 (April 2003): 196-209.

potential in Maryland and Virginia seemed limitless with the completion of the Baltimore and Ohio Railroad and the transcontinental railroad by the late 1860s. Chesapeake oysters had a national market.<sup>74</sup>

As the war drew to a close, oystermen eagerly awaited returning to work the water. Anticipations of profit drove Maryland to restructure the oyster laws in 1865. The vast nationwide market for oysters made traditional means of harvest like tonging and scraping appear inefficient and antiquated. More significantly, however, oystermen pressured the state to expand an 1854 Somerset County, Maryland law that legalized the use of small dredges in waters deeper than 21 feet. During the war, the majority of watermen languished while a few Somerset oystermen used dredges to profit from high oyster prices and scarce competition. Other local oystermen wanted in on the action. Years of state protection of oysters against outsiders, differing county laws, and the geographic distribution of oyster reefs led to the unequal allocation of resource rights across the state. The resulting climate of discontent, and power of watermen in the state legislature, drove Maryland authorities to liberalize the harvesting laws.<sup>75</sup>

In 1865, the General Assembly of Maryland officially repealed the prohibition on oyster dredging and opened up the Potomac to harvesting of unprecedented scale. But the repeal of the prohibition against dredging was only part of the oyster law reform. Maryland

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<sup>74</sup> Charles H. Stevenson, "The Oyster Industry of Maryland," *Bulletin of the United States Fish Commission* 12 (1894): 205-211; Keiner, *Oyster Question*, 34-36. A quick note on terminology, a waterman makes a living on the water, so a fisherman and oysterman can be called waterman. There are other occupations on the water so not every waterman is a fisherman or oysterman. For the purposes of this paper, however, waterman is synonymous with fisherman and oysterman.

<sup>75</sup> Stevenson, "The Oyster Industry of Maryland," 209-211; Keiner, *Oyster Question*, 34-36.

continued its tradition of protecting the lucrative industry against outside interests by enacting strict state and country residency requirements. The law required a \$5 license for tongers and a \$5 per ton displacement license for all dredgers. In addition, the state limited dredging to a season between September 1 and June 1 and prohibited the use of steam power. The reformed oyster laws opened the floodgates for oyster harvesting, tying the river's material value to the bivalve that carpeted the seafloor.<sup>76</sup>

By the 1870s, dredgers scraped the deep channels while tongers raked the flats and shoals of the river. Oystermen harvested from bars in the upper Potomac, like Hawks Nest near the Port Tobacco River, all the way to the Hog Island and Cornfield bars where the river met the Chesapeake. Growing from a Chesapeake harvest of 4,879,000 bushels in 1865-66 to 9,233,000 bushels in 1869-70, the efficiency of dredging spurred the Maryland oyster industry to its historical peak of 15 million bushels in 1885. The scale of the industry evades adequate description. Oystermen dredged upwards of 395 million bushels of oysters from the Chesapeake during the nineteenth century. That estimate also does not take illegally harvested oysters into account. As they passed through the market from watermen to the end consumer the bivalve approximated \$250 million in worth in the nineteenth century. The

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<sup>76</sup> For the 1865 oyster laws, see Lewis Mayer, *Supplement to the Maryland Code, Containing the Acts of the General Assembly Passed at the Session of 1865, divided into public general and public local law and arranged in articles and sections to correspond with the code: also, an appendix, containing lists of private acts and the resolutions of the session of 1865, in alphabetical and numerical order* (Baltimore: J. Murphy & Co., 1865), 53-60; A summation of the law can be found in Stevenson, "The Oyster Industry of Maryland," 211-216; Keiner, *Oyster Question*, 35-40.

significance and economic value of the oyster industry in Maryland and Virginia in the 1890s cannot be overstated.<sup>77</sup>

The wealth lying at the bottom of the river stirred up conflict over who had rightful access to the resources of the river. As Charles Stevenson described in his 1894 report on the Maryland oyster industry, the “oyster fishery in this river is more complicated and presents more intricate problems for solution than that of any other locality in the State.” Well before the American Revolution, the Potomac was the center of a territorial dispute between Virginia and Maryland. Legally, according to an arbitrated settlement in 1877, Maryland owned up to the extreme low-tide mark on the Virginia shore. Virginia’s only Potomac territory resided in the rivers, creeks, and bays that broke the southwestern shoreline. But to complicate the situation, an article of agreement dating back to 1785 permitted fishing and harvesting to residents of both Virginia and Maryland. Most confusingly, the agreement specified, “neither State should enforce any law not approved by the other.” The river effectively belonged to neither state, even though Maryland claimed sovereignty. As resources became more valuable and scarce the debate of legal jurisdiction and enforcement grew in intensity. Although working in boats right next to each other, authorities expected

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<sup>77</sup> Maryland Department of Natural Resources Fisheries Service Cooperative Oxford Laboratory Mapping and Analysis Project, *Maryland’s Historic Oyster Bottom: A Geographic Representation of the Traditional Named Oyster Bars*, by Gary F. Smith, 1997, Appendix E-17, 20, 25, 26, 30, 31, 34, 35; Caswell Grave, *Notes on the History of the Oyster in Maryland and the Physical Valuation of Her Oyster Properties* (Johns Hopkins University and Maryland Shell Fish Commission, 1912), 3-5; Keiner, *Oyster Question*, 35-40. For harvest estimates, see Stevenson, “The Oyster Industry of Maryland,” 211-216. Interestingly, Stevenson’s estimated value leaves out oysters harvested for fertilizer in the nineteenth as well as the oysters harvested in Virginia. Total harvest in the Chesapeake during this time likely far exceeded 400,000,000 bushels.

watermen to follow their respective state laws. “The result is that there is practically no culling regulation in the Potomac,” Stevenson concluded, and “This condition of affairs in the Potomac constitutes a serious obstacle to the proper enforcement of the oyster laws of the State.” An already dangerous occupation due to the icy waters and frigid northwesterly breeze of winter, this confusion over law led to violence. By the 1870s, watermen and state authorities from Maryland and Virginia became embroiled in what would become the “oyster wars,” with poaching allegations against watermen and heavy-handed enforcement by state authorities.”<sup>78</sup>

In 1868, Maryland created a state enforcement agency known as the “Oyster Navy” to protect the state’s valuable oyster beds. Much to the ire of Maryland watermen, the legal placement of the state boundary on the Potomac meant that Virginia watermen had little choice but to fish Maryland waters. Likewise, Maryland watermen found the oyster rocks of Virginia bays and creeks just as enticing, leading to the creation of the Virginia Fisheries Commission in order to protect Virginia’s state resources. The river resembled the Potomac of the Civil War. In 1883, *Pamlico*, a Virginia steamer of the Virginia Fisheries Commission, confronted a fleet of oyster pirates from Maryland at the mouth of the Potomac with the “liveliest cannonading that has occurred in these waters since the memorable encounter

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<sup>78</sup> For history of territorial disagreement, see *Correspondence of the governor of Virginia with the governor of Maryland and the authorities of Accomac County, Va.; also, the opinion of the attorney-general of Virginia in relation to recent difficulties in the waters of the Pocomoke* (Richmond: R. F. Walker, 1874). For more on the social tensions, see Wennersten, *The Oyster Wars of Chesapeake Bay*. Wennersten covers the rise and fall of the oyster industry in the Chesapeake, focusing on the conflicts between state authorities and watermen. For additional information on the Maryland oyster industry conflict and the oyster navy, see Keiner, *The Oyster Question*; Stevenson, “The Oyster Industry of Maryland,” 223-224.

between the Merrimac and Monitor in the beginning of the [Civil] war.” Maryland oystermen battled with Virginia authorities, Virginia oystermen, and Maryland authorities, while Virginia oystermen fought tooth and nail with Maryland oystermen, Maryland’s “Oyster Navy,” and Virginia authorities. Furthermore, Potomac oystermen in both Virginia and Maryland, along with Virginia and Maryland authorities, fought against the “Eastern Shoreners,” or dredgers from across the Bay who raided Potomac oyster reefs. In the early 1890s, the average annual Potomac harvest of oysters was about 1,600,000 bushels worth approximately \$700,000. Out of this lucrative, complex, and jurisdictional mess, Maryland and Virginia wanted the same thing—to protect a valuable resource for their own respective citizens. Oystermen on both sides also mirrored state aspirations, namely, their own access to the valuable commodity lying on the river bottom.<sup>79</sup>

Declining harvest numbers had some officials urging stronger protection and management policies in the late nineteenth century. Concern over resource exploitation led to state-sponsored research and surveys tasked with garnering extensive knowledge about oyster biology and life cycles. As early as 1879, under the direction of the Chesapeake Zoological Laboratory of Johns Hopkins University, W. K. Brooks successfully propagated oysters in a laboratory setting. The “advanced guard” of scientists like Brooks provided a

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<sup>79</sup> For the acts and establishment of the Maryland Oyster Police Force, see Lewis Mayer, *Supplement to the Maryland Code, containing the acts of the General Assembly, passed at the session of 1868: arranged in articles and sections to correspond with the Code* (Baltimore: J. Murphy & Co., 1868), 151-168. For reference of “eastern shoreners,” see “Only a Handful Remember Those Days,” *The Free-Lance Star*, March 22, 1971. For more on the Pamlico, see “Cameron’s Crusade,” *The Wheeling Intelligencer*, March 3, 1883. For more on the conflict, see Beitzell, *Life on the Potomac River*, 78-80. Potomac oyster averages can be found in, Stevenson, “The Oyster Industry of Maryland,” 226.

potential safety net for Potomac oysters. As the harvest rates soared in the 1880s, authorities struggled to find acceptable methods for protecting the oyster stock in order to avoid killing the “goose that lays the golden egg.” Critics of the lax oyster regulations pointed to a variety of common practices that decimated oyster rocks. Dredges broke up reefs, while oystermen removed oyster shells thereby limiting the hard surfaces on which oyster spat could set. Paired with lenient culling laws and the practice of harvesting small oysters for transplant purposes, the Potomac oyster industry fell under extreme pressure. This did not go unnoticed by Virginians or Marylanders. “The natural oyster growth is what upholds Virginia’s oyster trade—check it by any means, and checked is Virginia’s oyster trade,” wrote one concerned Virginian in the early 1880s. Within this incredible harvest, neither Marylanders nor Virginians wanted to destroy the oyster. Ideas of preserving and conserving predate the twentieth century notions of conservation and preservation.<sup>80</sup>

Local interest in protecting the river’s resources paralleled a national Progressive movement with the growth of conservation and wise-use in the late 1880s. Understanding the life cycle of oysters and the dangers to their survival reflected a developing interest in scientific management as a solution to overharvesting. If new technology could efficiently deplete a resource then policy and science could repair and protect the resource as well.

Neither state wanted to destroy the oyster. But Maryland and Virginia authorities did want to

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<sup>80</sup> For propagation of oysters, see “Infant Oysters,” *The Northern Neck News*, June 13, 1879. For quotes, see T.T. Bryce from *Southern Planter and Farmer*, “The Oyster Question,” *The Northern Neck News*, January 28, 1881. For more on oyster management issues, see Victor S. Kennedy and Linda L. Breisch, “Sixteen Decades of Political Management of the Oyster Fishery in Maryland’s Chesapeake Bay,” *Journal of Environmental Management* 164 (1983): 153-171.

maximize profit while ensuring the viability of the industry's future. As an 1868 law clearly stated, Maryland wanted to "develop the oyster fisheries and preserve them as a permanent source of revenue to the state." Conservation was easier said than done. The disputed state boundary complicated oyster conservation as watermen evaded enforcement authorities and quarreled over the unfair nature of two conflicting sets of state laws. Two states trying to control one river equated to nobody effectively controlling the river. Despite the interstate disagreements, the efforts to protect the fisheries of the river would surface again and again in the coming decades as both Virginia and Maryland attempted to protect intensive fisheries. A will to save, while admirable, does not equate to an ability to do so.<sup>81</sup>

Oyster industry infrastructure not only shipped oysters from coast to coast, but also allowed seafood vendors and suppliers to explore new opportunities for profit. Once thought of as poisonous by locals, blue crabs, *Callinectes sapidus*, became an important local staple in the mid nineteenth century. Their extremely perishable nature, however, limited potential profitability and restricted small shipments to local markets. Market potential flourished with the rail lines from Baltimore and Crisfield, Maryland that led straight to the heart of growing cities in the Northeast. By 1873 or 1874, the first shipment of crabs went from Crisfield, Maryland to a seafood firm in Philadelphia. With that shipment a new market was born. Amid the prime blue crab habitat of the tidewater Potomac, oystermen now had another means of making money during the oyster offseason. Due to extreme heat and oyster

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<sup>81</sup> For the quote concerning the development of the oyster fisheries, see Mayer, *Supplement to the Maryland Code*, 127; For more on the rise of scientific management and conservation, see Samuel P. Hays, *Conservation and the Gospel of Efficiency* (Pittsburgh: University of Pittsburgh Press, 1999), 1-19.

spawning in the summer, oystermen often pursued odd jobs, fishing, or farmed in the offseason. Blue crabs allowed watermen to keep the boats running all year long. But shipping live crustaceans during the summer proved difficult, however, as up to half of the crabs died before reaching the market. In 1884, the development of specialized iceboxes allowed long-distance shipping without significant loss. In 1887, Maryland and Virginia shipped over 5,020,988 pounds to market. The states had another revenue source, while watermen had additional insurance in their livelihood.<sup>82</sup>

Crab houses, along with oyster canneries and fertilizer factories, provided a livelihood for thousands of watermen and local residents. Crabbers awoke as early as three or four in the morning to ensure they were back before the sweltering heat of mid-day. Unfortunately for watermen, crabs enjoyed bait that contributed to the unpleasantness of the job. Crabbers used bits of old beef or sheep tripe, calf pelts, horsemeat, eels, or skates to bait trotlines, while larger operations used dredges and scrapes to harvest crabs. The crab industry also supplied jobs to local women, children, and African Americans. Like the oyster houses in Crisfield and Baltimore, Maryland, crab houses popped up throughout the Potomac as the industry took off. The industry employed all levels of the local society. White and black watermen brought in the catch while predominately black and white women and children picked clean the crabs and canned the meat. Based on the estimated number of 6,538 white

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<sup>82</sup> Department of Commerce Bureau of Fisheries, *Crab Industry of Chesapeake Bay* prepared by E. P. Churchill, Jr. (Washington, DC: Government Printing Office, 1918), 4-7. The exact poundage of crab is hard to determine as Virginia does not have a value for soft crabs in 1877. The number reflects Chesapeake shipments; Department of Commerce and Labor Bureau of Fisheries, *The Crab Industry of Maryland* (Washington, DC: Government Printing Office, 1905), 420-425.

and 7,698 black oystermen in Virginia in 1880, the fishing industries of the Potomac fostered a diverse workforce. As the industry matured and new technology came into use, workers steamed the crabs in enormous cookers and the meat was separated into “lump,” “white,” and “claw.” The crab houses usually allotted payment based on gallons or pounds of meat picked per worker. Experienced pickers cleaned upwards of 60 to 70 pounds a day. The houses also employed young boys to clean the crab shells for about one cent for every ten shells. Each shipment of crabs was sent with a number of cleaned shells for the popular deviled crab dishes served at high-end restaurants throughout the Northeast. The value of the river’s material resources went far beyond the actual oyster or crab, by subsidizing an industry that employed all levels of rural society. The pay may not have been great, but the work provided an option in a region where alternatives beyond fishing and farming were few.<sup>83</sup>

In addition to the oyster and crab, fish also fueled the growth of industry on the Potomac. Locals had long used the river for fishing but it was not until after the Civil War that an industry grew with the rise of urban markets and fertilizer factories. After the war, most local fishermen used nets and lines while relying on years of experience and accumulated knowledge. But by the 1870s fish traps, or pound-nets, dotted the Potomac waterscape, becoming commonplace to supply cities with marketable species like Spanish mackerel and rockfish, while fishermen embraced bigger nets to catch menhaden for

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<sup>83</sup> Bureau of Fisheries, *Crab Industry*, 1-25; Bureau of Fisheries, *The Crab Industry of Maryland*, 415-432. In fact so bad was the smell of crab bait, particularly old tripe, that “steamboats have refused to transport it on account of its offensive odor, and the railroad companies will not handle it except when it is packed in tightly sealed barrels.” For oystermen population numbers, see Department of the Interior, *The History and Present Condition of the Fishery Industries: The Oyster-Industry*, by G. Brown Goode (Washington, DC: Government Printing Office, 1881), 182.

fertilizer reduction. The species diversity and ecological productivity of the Chesapeake made it famous for its fisheries in the late nineteenth century.<sup>84</sup>

Fishing connected the resources of the river to the farmers along the shoreline. Once again, like the oyster industry, the Potomac's productivity proved a curse through controversy and conflict. Fishing traps delivered a simple and efficient means of capitalizing on the ecological abundance of fish in the Potomac, particularly for the interests in the fertilizer industry. Fertilizer factories at the tip of the Northern Neck of Virginia reduced fish into fish oil and fertilizer for agricultural and industrial use. These factories preferred menhaden, *Brevoortia tyrannus*, an oily and abundant small fish for the production of oil and phosphate fertilizer. But traps were indiscriminate. Traps not only provided an efficient means of catching Menhaden, they also caught more valuable species of fish as well. Traps created "hostility towards those who engage in this wholesale destruction of our best fish," criticized one newspaper, "which will operate equally against all who are engaged in the manufacture of fish guano." Traditional fishermen deplored the new stationary fish traps, demonstrating their contempt by tearing down some of the earliest traps in 1875. Fishermen conceded the importance of fertilizer factories for the prosperity of rural towns like Fairport and Reedville, Virginia, but took issue with the indiscriminate nature of trap fishing. One resident echoed a familiar refrain in regard to trap fishing and Potomac resources in general, "Let us not kill the goose that lays the golden egg." Fishing technology allowed locals and

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<sup>84</sup> George Brown Goode, *The Fisheries and Fishery Industries of the United States* (Washington, DC: Government Printing Office, 1884), 307-310; Beitzell, *Life on the Potomac River*, 88-95.

industrial interests to harness the river, but not without social debate over how much fishing was too much.<sup>85</sup>

Fishing technology like fish traps and purse seines also brought about environmental upheaval in the wake of social turmoil. The targeting and heavy fishing of species like menhaden sent ripples through the local food chain. Many types of fish, including marketable fish like rockfish, bluefish, and Spanish mackerel, rely on menhaden as sources of food. Species like menhaden serve as a cornerstone to the entire system. As fishing industries grew around forage species like the herring family, which includes shad, menhaden, and river herring, local food chains likely changed in response. Like sedimentation and nutrient influx altered the physiology of the river, overfishing altered the species composition as the fishing industry expanded.<sup>86</sup>

The tension between traditional fishermen had less to do with the traps than what they represented—the response of a growing fertilizer industry to external demand. Selling oil between 38 to 40 cents per gallon and dry fertilizer “chum” between 35 and 40 dollars per ton, the fertilizer industry grew into one of the biggest industries in eastern Virginia and southern Maryland. That demand meant more than just fish traps. Fertilizer factories employed a proactive fleet of boats to net the schooling menhaden. Known as purse or

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<sup>85</sup> For the quotes on trap fishing, see Editorial, *The Northern Neck News*, June 6, 1879. For more on the rise of fishing, see Kennedy and Mountford, “Human Influences,” 197-201.

<sup>86</sup> Virginians and Marylanders basically competed with predators for a limited resource, but the actual impact of industrial fishing in the late nineteenth century is extremely hard to determine. The rise of the fishing industry is important, however, as it may have signaled a growing case of “fishing down the food chain,” see Elizabeth J. Reitz, “‘Fishing down the Food Web’: A Case Study from St. Augustine, Florida, USA,” *American Antiquity* 69, no. 1 (January 2004): 63-83.

“seine” netting, a fleet of boats called “pungies” encircled Menhaden schools with a large net about 900 feet long. Fishermen then drew closed the bottom of the net and pulled the net aboard. Once loaded onto “carryaway” boats, fishermen took the catch to local factories for reduction into oils and phosphates. Purse seines escaped local ire as they allowed for targeting of specific species and reduced the bycatch of otherwise marketable fish. But purse seines, like oyster dredges, signaled a shift in efficiency and intensity. Fishermen had the capability to capture entire schools in one net. With that efficiency came the need for the ever-increasing size and speed of vessels. By the 1880s, some purse net fleets replaced wind-driven pungies with steam-powered vessels capable of higher speeds and greater capacity. In 1881, the Wicomico River fleet alone included one hundred and fifty vessels, five of which were steam powered fishing boats. The post-war shoreline harbored a population that vociferously pushed for careful use of resources, but struggled to maintain control as outside capital, fishing, and industrial interests influenced the resource decision-making.<sup>87</sup>

The Potomac was indeed a landscape of plenty and profit. The intensity of harvesting, however, opened up debates and hostility between locals and industrial interests over how, and how intensively, resources should be used. Trap fishing, large seine nets, and steam power transformed the Potomac from local network fishing ground to a fishing factory tied to global markets. The river had always provided residents with protein for their tables and

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<sup>87</sup> “Down on the Northern Neck,” *The Northern Neck News*, September 16, 1881; For a description of the Menhaden fishery, see “Down on the Northern Neck,” *The Northern Neck News*, September 16, 1881. For a description of Menhaden as a species, see Edward O. Murdy and John A. Musick, *Field Guide to Fishes of the Chesapeake Bay* (Baltimore: The Johns Hopkins University Press, 2013), 77-78. For more on conflict on the end-use of sardines and the social value of fisheries in a Pacific coast context, see Chiang, *Shaping the Shoreline*, 60-78.

local markets, but the oyster, crab, and fertilizer industry unlocked the river to external interests. Traps glutted the market with profitable, high-demand species and drove down the price of fish locally while decreasing profits for traditional fishermen. Fertilizer factories tied the river to the agriculture industry market pressures and demands. As Matthew McKenzie wrote about Cape Cod's fisheries, traps prioritized short-term gain over long-term benefit and allowed factories the highest return on investment while undermining the value of local knowledge. By the late nineteenth century the Potomac became a landscape where experience and local knowledge mattered less as the scale and efficiency of technology increased. The river had locals interested in protecting its resources and maintaining the viability of the industries. It also had captains that relied on the senses, prior experience, and passed down tricks. But as fishing technology commoditized the Potomac without requiring any prior experience—just an influx of capital—the control over resources left local hands and prioritized knowledge about technology over the natural environment.<sup>88</sup>

All of this change, growth, and new technology still required hard work and a cheap source of labor. Samuel Sewell, a waterman in the 1890s, recalled the dangers of the water. Describing his early days as a waterman, Sewell remembered a “hard, cold life” of “back-breaking work...from sunrise to sundown.” Work on the river paid, but surviving was no guarantee as many watermen ended the season in unmarked shallow graves. The work was cold, hard, and dangerous. This did not discourage locals from supplementing farming with

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<sup>88</sup> For more on the loss of local knowledge and prioritization of short-term gain over long-term social benefit, see McKenzie, *Clearing the Coastline*, 89-136; For more information on the size of the Potomac pound-net fishery, see Kennedy and Mountford, “Human Influences,” 207-208; Beitzell, *Life on the Potomac River*, 95-97.

the river's resources, or from signing up with fishing boats in the region. The size of ventures and outfits varied. While some watermen worked the shallows in canoes and little skiffs with limited help, large vessels required a steady source of labor at all times. Captains frequented cities with busy waterfronts like Baltimore and Norfolk or towns like Crisfield, Maryland to recruit cheap labor, the word "recruit" being a relative term. Tales of captains duping or kidnapping labor from waterfront bars for the long, cold oyster seasons on the Chesapeake pervade the region. Waterman George Belfield remembered such a visit to Baltimore, lying on the boat listening to people "'cryin', beggin' to be turned a-loose.'" Others recalled men being dropped off on secluded stretches of shoreline for a long walk home, or even worse, "paid off with the boom" so that captains could save on crew costs. Such accounts would not be without precedent in the northeast United States fishing towns, or later in the Pacific Northwest, but are likely exaggerated in frequency and embellished in content. Regardless of how labor was brought together on the river, oysters, crabs, and fish included people from all corners of the country and globe.<sup>89</sup>

Oystering, crabbing, and fishing drew a workforce as dynamic as the environment in which they worked. In 1880, the tidewater Potomac had 414 white and 223 African-American fishermen, oystermen, and sailors working the river. The biracial element of watermen reflected the plantation history of the surrounding shoreline. Discrimination and prejudice certainly followed black men to the water, but much like farming, the river created

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<sup>89</sup> The quotes are from articles describing the oyster industry in the late nineteenth century, see Samuel T. Sewell, "I Remember...Oyster Dredging in the 1890s," *Sunday Sun Magazine*, March 6, 1966, 51; Editorial, "Only a Handful Remember Those Days," *The Free Lance-Star*, March 30, 1971.

a setting for both black and white labor. Unfortunately, historical records are largely quiet about African American exploits on the Potomac. But there are stories of several African-American river pilots, oystermen, and fishermen that their white counterparts held in high esteem. African American Beverly Collins, captain of the *Mark Stevens*, or Henry Stewart, captain of the *Eva Clarence*, became well known and respected watermen on the Potomac, sailing their bugeyes alongside white watermen. Although far from a utopia of equality, life on the water did open doors and potential opportunities that might otherwise have been unavailable on land. But labor was not restricted to local whites and African Americans. A roster of hands on Maryland dredgers from Baltimore in 1892 reveals a Chesapeake that was as much northern as it was southern, and foreign as it was domestic. Of the 2,438 hands counted, 53 percent were from foreign countries and only 12 percent claimed Maryland residence. The roster included states from all over the North and as far West as California, as well as countries like Germany, Ireland, England, and Poland. Baltimore's development as a commercial seafood center fostered a diverse workforce and placed people from all over the world right next to the whites and blacks of Virginia and Maryland.<sup>90</sup>

This diverse group of watermen revealed the budding connections of cities like Washington to the rest of the country through railroad infrastructure. Railroads ran to, and

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<sup>90</sup> Beitzell's description of African American waterman appear to be from the late nineteenth or early twentieth century, the dates the watermen worked are not exactly clear. See Edwin W. Beitzell, *Life on the Potomac River* (Bowie, MD: Heritage Books, Inc., 1968), 66-68, 93. The census numbers include St. Mary's, Charles, Prince George's Counties in Maryland, and Northumberland, Westmoreland, King George, and Stafford Counties in Virginia; Kennedy and Mountford, "Human Influences," 207-208; As for black opportunity and participation in the Chesapeake, see Keiner, *The Oyster Question*, 8-9, 47-55; For the roster of dredge hands, see Stevenson, "The Oyster Industry of Maryland," 244.

through, Baltimore and Washington, supplying workers from all over the nation and world. Likewise, seafood dealers shipped Potomac and Chesapeake oysters, crabs, and fish across the country. Local watermen and farmers, however, had limited transportation options beyond the Potomac. People and goods left the region through the river. A broken landscape of swamps, marshes, coves, and bays in southern Maryland and the Northern Neck of Virginia kept the region isolated by inhibiting road and railroad growth. Opened in 1869, the transcontinental railroad offered access to the West Coast with almost as much ease as travelling to river communities only 100 miles from the nation's capital. With a lack of serviceable roads, the communities of the Potomac congregated around river wharves. Even the agricultural townships of the peninsulas' interior kept direct access to the river for commerce and transportation. The river ruled all.

Travelers noted their astonishment at the river-oriented layout of communities and development. In 1884, J. T. Rothrock looked over the rail of his yacht at the green forests, coves, and cliffs of the Potomac, marveling at the lack of development inland from the shoreline. He noted in his journal, "the abundance of superior harbors...has in one sense retarded the development of the country...by making water communication so easy and so extensive, it has in so far superseded the necessity for roads." Logically, communities and settlements lined the water instead of interior roads and rail depots that arranged other parts of the country. A reporter described the town of Irvington, Virginia as "different from any I have ever seen, for although it claims a population of 1,000, there is not a street in the village." Many communities had no traditional town center, with every home and property

next to the water. The Potomac provided both abundance and material value as a highway for the region, and all travel and commerce depended on its waters.<sup>91</sup>

The river shaped both the physical and commercial development of the region. Roads were little more than paths and railroads failed to reach the tidewater communities. Looking at the country around them, however, farmers and merchants hoped to attract alternatives. Moving people and goods proved slow and subject to the whims of monopolistic steamboat lines. In 1880, the communities along the southern shore of Maryland benefited from expanded trade and traffic with the construction of a Pennsylvania Railroad line from Point Lookout to Washington. Envious of their cross-river rivals, communities in the Northern Neck of Virginia eyed their own railroad as early as 1881. Progress moved slowly. In 1890, the Northern Neck Railroad and Transportation Company proposed a railroad through Lancaster, Richmond, Northumberland, Westmoreland, King George, and Stafford counties, before connecting in Fredericksburg, Virginia.<sup>92</sup>

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<sup>91</sup> For first quote, see J. T. Rothrock, *Vacation Cruising in Chesapeake and Delaware Bays* (Philadelphia: J. B. Lippincott & Co., 1884), 39-40. For background on the rise of recreational yachting in the Potomac region, see William S. Dudley, *Maritime Maryland: A History* (Baltimore: Johns Hopkins University Press, 2010), 165-193. For quote about Irvington, see A. S. M., "A True Fish Story," *Staunton Spectator*, September 21, 1899.

<sup>92</sup> Editorial and strong support emerged in the early 1880s for a railroad, but the project never materialized. For one account of the failed railroad, see "Down on the Northern Neck," *The Northern Neck News*, September 16, 1881. The author recounts a suspicious stock meeting for the project where, despite support, the project fell through because a number of voters stayed home and the commissioners determined those votes as negative. For views against the construction of the railroad, see editorial from *The Fredericksburg Star* in *The Northern Neck News*, February 25, 1881; for editorial supporting railroad construction, see editorial from *The Fredericksburg Star* in *The Northern Neck News*, February 18, 1881; Editorial, *The Northern Neck News*, March 25, 1881. It does not appear that substantive steps were taken to incorporate a company until the 1890s when a bill was presented to the Virginia Legislature to incorporate a Northern Neck Railroad and Transportation Company, see "Northern Neck

Locals throughout the Northern Neck of Virginia saw their isolation by land as restricting full commercial potential. Support grew, driving every county to allocate \$30,000 dollars toward railroad construction. Even with strong regional support the railroad never materialized. According to reports, the Weems Steamboat Company of Baltimore “bought the company off,” and the project failed. Railroad proposals surfaced every few years for the Northern Neck, but a combination of logistical problems and pro-steamboat interests scuttled each project. Steamboat interests, land surveys, procuring rights-of-way, and raising capital proved insurmountable challenges when competing with a river as a highway and the companies that relied on it. The relatively inexpensive nature of water transportation also outweighed the construction and labor costs of a railroad that would require construction through swamps, tidelands, and marshes, as well as over the rivers, stream, and tidal creeks of the Virginia peninsula.<sup>93</sup>

Interests in the river as a highway grew with the steamboat industry crafting new ties between the growing metropolis of Washington and the rural communities of the tidewater. Although steam power made its debut on the Potomac with the “clumsy, flat-bottomed” craft named the *Columbian* in 1813, the industry gained momentum after the Civil War. By the 1870s, steamboats regularly ran up and down the Potomac alongside traditional wind-driven vessels. Steamboat companies answered the need for commercial shipping in the rural,

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R. R.,” *Alexandria Gazette*, January 3, 1890; Telegraphic Flashes, *The Roanoke Times*, May 10, 1891. For more on the Northern Neck Railroad and Transportation Company, see “Railroad Company Organized,” *The Washington Post*, January 11, 1895. The company raised a significant amount of capital, but the railroad was never built.

<sup>93</sup> Holly, *Tidewater by Steamboat*, 128-129. Holly discovered the newspaper report in the Forbes Collection, unfortunately, I am unable to verify the report due to Baltimore Sun archive limitations and cost.

tidewater Potomac but also, in part, spurred the growth of recreation for Washingtonians. The need for commercial transportation for produce, oysters, crabs, and fertilizer in the rural Potomac created a connection to urban centers and a growing affluence looking to escape the suffocating city. Communities that surrounded steamboat wharves began to cater to visitors by opening resorts and creating attractions. Steamboats offered the possibility of weekend travel to resorts along the tidewater shoreline. The value of the river for recreation grew right alongside the material industries of the late nineteenth century. As the region's only highway, it provided economic, social, and recreational ties to urban environments like Washington. Technology alternatives, or lack thereof, linked city and country solely through Potomac waters.<sup>94</sup>

Steamboat traffic also fostered an affordable, democratic vision of recreation for visitors and vacationers. Although the “salary-grabbers, the Credit Mobilierites, the Washington Tammanyites...and the *crème de la crème*” fled to prestigious and fashionable resorts in Saratoga, New York; Long Branch and Cape May, New Jersey; and the mountains of Virginia Springs, Virginia; the Potomac offered “cool breezes to the feverish city” to the thousands who could not afford the high-class resorts of distant locales. Only a short, inexpensive boat ride away, residents of the capital found boating, fishing, and swimming at popular resorts like Colonial Beach, Cedar Point, Colton's Point, Leonardtown, Blackstone's Island, Piney Point, Cobb's Island, St. George's, and Point Lookout by the 1880s. The river

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<sup>94</sup> For more on the region and the *Columbian*, see Edwin W. Beitzell, *Life on the Potomac* (Bowie, MD: Heritage Books, Inc., 1968), 111. For more on the steamboat industry and region, see Eaton, *Historical Atlas of Westmoreland County Virginia*, 3; Tilp, *This Was Potomac River*, 188-196; Holly, *Tidewater by Steamboat*, 196.

provided recreation at a reasonable cost of about \$2 per day, \$10 a week, or \$30 to \$35 a month depending on accommodations. Steamboats carried vacationers up and down the river each summer, and as a result, many river communities revolved and grew around resort centers along the Potomac shoreline.<sup>95</sup>

Pleasure-seekers proclaimed the river's rise as a prominent recreation and tourist destination during the 1880s. The growing crowds of "tourists, excursionists, and pleasure-seekers" flocked to the resorts that grew along the river's banks. The "health-giving and rest-compelling shades" the river provided stood in stark contrast with the confined, stuffy capital during the summer months. The Potomac proved a playground for Washingtonians. After centuries as a highway for commerce and trade from the countryside, the river promised recreation for those with the time and money to escape the metropolis. *The Washington Post* even declared, the "day is not remote when it [the Potomac] will become as famous for its fine, deep-water steamers, its clubs and hostelries, its private yachts and sailing craft, and the number of its voyagers as it is renowned in story and picturesque in scenery." The prediction quickly came to fruition, as new resorts opened with fanfare, dancing, and celebration. Tourists crammed the decks of steamers to watch the festivities. Resorts offered the finest service and first-class service and entertainment, beautiful architecture, excellent fishing, and all the amenities of a big-city hotel (see figure 10). Cabins dotted the shores for guests

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<sup>95</sup> Charles A. Pilsbury, "Down the Potomac," *Forest and Stream*, September 25, 1873, 1-2; "Frolics for the Fourth," *The Washington Post*, July 2, 1879; E. N. Chapin, *American Court Gossip, or Life at the National Capitol* (Marshalltown, Iowa: Chapin & Hartwell Bros., 1887), 156; "Preparing for the Approaching Season on the River," *The Evening Star*, March 11, 1895. Interestingly, the values of \$2, \$10, \$30-35 in 1880 equates to an approximate relative consumer value of \$42, \$232, and \$695-\$811 respectively in 2013 according to [www.measuringworth.com](http://www.measuringworth.com).

looking for a more secluded getaway. By the early 1890s, so many Washingtonians left the city that resorts were “overflowing with guests sleeping in hammocks and cots, and even less desirable places, owing to the lack of accommodations.” The river connected the urban world to the remote and rural regions on both sides of the Potomac, creating a landscape that could be rented with a stay at one of the many resorts. The glistening water, fresh air, and picturesque scenery offered an environment that contrasted sharply with the growing pains of the capital in the late nineteenth century.<sup>96</sup>

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<sup>96</sup> “The Potomac and Its Future,” *The Washington Post*, May 2, 1891; “Pleasures on the Potomac,” *The Washington Post*, August 21, 1892; “Excursionists Down the River,” *The Washington Post*, August 22, 1892; “A Mecca of Recreation,” *The Washington Post*, May 6, 1895. The article describes the fanfare surrounding the opening of a new summer resort, River View; “Trips to Down River Resorts,” *The Washington Post*, July 25, 1893; “Big Day at the River Resorts,” *The Washington Post*, July 15, 1895; “Colton-on-the-Potomac,” *The Washington Post*, June 27, 1895. Colton was a first-class venture, including “electric bells, hot and cold water baths, first-class laundry, a barber and hair dresser from a leading city shop...a post-office on the place, with daily mails and a well-stocked store.”



Figure 10. Colonial Beach Hotel around 1885 during a Civil War reunion. Courtesy of the Colonial Beach Historical Society and Museum.

The growing recreational value of the river coincided with an emerging romantic and symbolic vision of the nation's river in the 1880s. Visitors, residents, and politicians had particular dreams and visions for the capital. Washington was more than a city; it was the embodiment of a nation. Residents and visitors alike described the city and its architecture, plazas, parks, and natural surroundings in a veneer of romantic prose. Residents like Mary Clemmer illustrated the capital environment as an idyllic scene, a landscape "girdled by this

bright stream, and encompassed by hills” and rolling plains “still covered with native oaks and undergrowth.” The Anacostia and Potomac rivers were to “bear upon their waters ships bringing to these green shores the commerce of many nations.” The river was to be the epicenter of the nation, with “gently climbing hills crowned with villas...broad streets, a populous city, [and] magnificent buildings.” Washington was to outrival the “temples of antiquity—the Federal City, the Capital of the vast republic yet to be!” In her vision, Washington must rival ancient Athens or Rome in beauty and the landscape was to set the stage. This vision included the Potomac, as Washingtonian E. N. Chapin enshrined the river with the monuments, obelisks, and legends of the Capital. The river shared status with the “towers of the Jesuit College of Georgetown...the Lee mansion at Arlington, Fort Meyer with its starry flag, and the green hills of old Virginia.” Like a scene in a painting, Washingtonians saw more than a physical environment; they saw meaning in the cool water, beautiful trees, and green shores.<sup>97</sup>

The national historical significance and perceived timelessness of the river was also inextricably tied to the landscape’s romantic meaning. Writers like S. Somervell Mackall saw a Potomac environment steeped in history, the riverbanks alive with the legend and lore of General Washington, Thomas Jefferson, and George Mason. The landscape was a pastoral environment where the “beautiful Potomac winds along, its shining waters reaching as far as the eye can see.” Mackall incorporated the enduring river into an idyllic and timeless past,

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<sup>97</sup> Mary Clemmer, *Ten Years in Washington: Or, Inside Life and Scenes in Our National Capital as a Woman Sees Them* (Hartford: The Hartford Publishing Company, 1881), 22-24; E. N. Chapin, *American Court Gossip, or Life at the National Capitol* (Marshalltown, Iowa: Chapin & Hartwell Bros., 1887), 8.

where a spring rushed “from the roots of a large oak which doubtless stood there when the red man, years ago, came thither to slake his thirst,” and a nearby grassy lawn afforded a “pleasant summer resort.” To Mackall, few places had the “natural beauty of our city,” where “one may ride for miles along the banks of the Potomac, through the most attractive scenery.” Like John Smith’s description of the river, the late-nineteenth century Potomac was part of a veritable Eden, enduring through time and inspiring leaders and great men. Its beauty reflected the country’s promising potential. It also reflected a growing utilization for recreation. Whether along the banks in the capital or the resorts of the tidewater, people looked to the surrounding landscape for an escape, answers, and larger meaning. The idealized Potomac took on a symbolic role as the foundation for the capital—a river of history, beauty, and reverence—apart from the ugly reality of metropolitan industrialization and commercialization. As the turn of the century approached, the Potomac had transformed into a river of intensive work and harvesting, a place for recreation, and finally a symbolic landscape of national meaning. The water lapping at the shoreline was part of a complex physical and social ecosystem of competing and coexisting values.<sup>98</sup>

The river’s role as a highway tied it to the material resources within the river and Washingtonians looking for the rest and relaxation at Potomac resorts while precluding alternatives. Ironically, the river, or “market facilities,” that John Tayloe described in 1865, became a limiting factor by the turn of the century. Everything relied on the river and, in turn, a Northern Neck resident wrote to the Fredericksburg-based *Free Lance Star* venting

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<sup>98</sup> S. Somervell Mackall, *Early Days of Washington* (Washington, DC: S. S. Mackall, 1899), 13-14, 19, 23.

frustration, “Our only draw back, and the only criticism people of other parts have to make of our section is lack of transportation.” Washington newspapers captured the dependence on the river with descriptions of farm goods, river resources, and “heavy passenger lists” travelling up and down the Potomac. Passengers and goods embarked on Potomac and Chesapeake Line steamers with names that reflected the romantic and historicized language of the day, like the *Majestic*, *Wakefield*, *Frederick de Barry*, *Gratitude*, and *Volunteer*. Maryland and Virginia growth since the Civil War had outdated the river’s role as the sole highway, and as Washington grew ever outward the tidewater seemed as disconnected as ever. The river remained the sole line of communication, trade, and travel—the only connection between city and country.<sup>99</sup>

The rebound after the war spurred incredible change in the countryside. The Federal army abandoned the earthen works around the city, while farmers picked up the pieces, resowed fields, and watermen untied their dock lines. Farms diversified and enjoyed the growing commercial network that supplied fertilizers, additives, and new crops. The river harbored a growing oyster, crabbing, and fishing industry that dwarfed the pre-war years. As two wealthy yachtsmen, Robert and George Barrie, noted at the turn of the century, “practically every inhabitant of the surrounding shores...engaged in some way, either

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<sup>99</sup> The quote is from an editorial, see Letter from Virginia Citizen, “Northern Neck Railroad,” *The Free Lance*, February 4, 1904. For an example of passenger and commercial updates, see “General Port News,” *The Evening Star*, September 19, 1902. For steamboats and the isolated nature of Potomac communities, see Holly, *Tidewater by Steamboat*, 185-195. Rivers concentrated routes and attention in regions like the Northern Neck, see John Towner, *An Historical Geography of Recreation and Tourism in the Western World, 1540-1940* (West Sussex, England: John Wiley & Sons Ltd, 1996), 163-166.

tonging, dredging, or in the packing houses.” Growth of industry fostered a rising tension in the tidewater communities about how the river’s resources should be managed and how much was too much? Technology transformed the ability of men to harvest the oysters, crabs and fish. This material work on the river relied on the steam power that connected the country to the city. Consequently, Washingtonians discovered the tranquil, beautiful shoreline along the tidewater, filling the decks of steamboats to stay at resorts that dotted the entire length of the river. The waters shaped the region’s development, served as the only highway, and obliged the growing complexity and contested nature of the region. Everything began and ended with the Potomac in the late nineteenth century.<sup>100</sup>

The Potomac environment was changing as fast as the society and communities along its banks. Farming continued to increase sedimentation and eutrophication of river waters, while watermen introduced technology and efficiency that was new to the region. The industrialization of the farming and fishing industries sped up the deterioration that had started long before as scope and scale rose to an unprecedented level. Yet, recreation and the romantic rhetoric of the late nineteenth century looked past the looming issues and signs of change that characterized the environment. Signs were not yet so definitive. A short jaunt down the river took one out of the city and into the refreshing countryside. These romantic accounts by authors, vacationers, and visitors, however, contrasted conspicuously with the increasing contemporaneous descriptions of drainage issues, sickness, and stinking tidelands that saturated accounts of the Washington waterfront. Washingtonians saw two rivers, one

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<sup>100</sup> George Barrie Jr. and Robert Barrie, *Cruises: Mainly in the Bay of the Chesapeake* (Philadelphia: The Franklin Press, 1909), 261-265.

symbolic and pure, another the consequence of urban growth. The dichotomy coexisted at the turn of the century as Washington outgrew its boundaries.

### Chapter Three: “Dreary view of the Potomac”

Romantic language surrounded Washington and the Potomac in the late nineteenth century, creating a river apart from reality. There was one river that people looked to for meaning, and a separate body of water grounded in the actualities of urban growth and sprawl—same river, two worlds. “Washington wears a silk dress over a dirty petticoat,” writer David Copeland observed, “The filth of the river in the eastern branch [Anacostia] during the Summer is strong enough to drive away even a tan dog—and woe unto the delicate nose that dares to court its odors.” To see the luster of the capital at the turn of the century, one had to squint past the “dump heaps,” “shanties,” and “refuse” of the streets, and protect against the stench of the river and the city’s stables. Washingtonians were very aware of the consequences of industrialization and urbanization. Disease lurked in the waste-filled waters. “Threatening contagion, if not the outbreak of an epidemic, so those conversant with the condition of Potomac water say,” wrote one newspaper in 1903, “will arouse to activity the authorities in whose power lies the correction of the menacing evil.” Such descriptions lend a stark contrast to the ideological, romantic language of the late nineteenth century. A dichotomy of the river existed where Washingtonians could simultaneously divide the waters into what they *wanted* to see and the *realities* of a city that had more than doubled in population between 1870 and 1900.<sup>101</sup>

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<sup>101</sup> For quotes describing Washington and the river, see Letter from David S. Copeland to the Editor, “Southeast Washington,” *New York Times*, April 26, 1903. For a description of the stables and the terrible condition of South Washington, see Letter from David S. Copeland to the Editor, “South of the Capitol,” *New York Times*, May 3, 1903. For population of the city, see U.S. Census Bureau, “Historical Census Statistics on Population Totals By Race, 1790 to 1990, and By Hispanic Origin, 1970 to 1990, For The United States, Regions, Divisions, and

This chapter explores the development and growth of Washington from the turn of the century as it transitioned to a sprawling metropolis by the 1930s. As cities like New York and Chicago rose skyward in search of space, Washington spread outward like a ripple. Rural landscapes disappeared in the face of urban growth, succumbing to the needs of the capital. Urban growth coincided with improvement projects that produced consequences in the form of environmental and social problems. Refuse filled the streets and water while sewage fouled the tidelands, all while scientists and residents tried to understand the true cost of pollution and water-quality issues. Yet, Washingtonians still used and dreamed about the river. They needed it for recreation, retreating southward to parts of the lower tidewater river that fulfilled their idyllic notions of a Potomac landscape. They still looked to the Potomac for meaning and symbolism, as well as an escape for both the mind and body. Its rural shorelines fostered health and tranquility, while the growing city increasingly disconnected its inhabitants from the environment that surrounded them. City life shaped a society that had different values and needs than the industry and rural communities of the lower tidewater.

Issues with urbanization long preceded the turn of the century. Even as authors like Mary Clemmer, E.N. Chapin, and Somervell Mackall proclaimed its historic beauty, the late nineteenth century saw residents accuse Congress of providing insufficient attention to the city. They pointed to a lack of progress in reclaiming the Potomac waterfront from marshes.

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States,” by Campbell Gibson and Kay Jung under the Population Division, <http://www.census.gov/population/www/documentation/twps0056/twps0056.html> (accessed March 31, 2014). The population grew from 131,700 to 278,718 in 30 years. The last quote about “menacing evil” refers to the pollution of the upper Potomac and the threat to water supply. See “Water Pollution,” *The Evening Star*, January 3, 1900.

Tidelands were “festering in the sun and poisoning the air,” and “gave to each wind the seeds of disease and death.” Columnists argued that Congress “lavished millions on the rivers and harbors of the country...whose claims to national consideration are insignificant,” without improving the waterfront and harbor of the nation’s capital. By removing “obstacles of the past,” including railroad tracks, standing cars, bluffs, and the “pestiferous canal,” the river could be utilized for trade, health, and the “pleasure of the city.” The urban setting demonstrated poor planning and lost opportunity. Washingtonians needed the waterfront to “furnish fresh air cheaply in the heat of summer and...bring joy to children and the poor, and despair to the doctors, druggists, and undertakers.” The city struggled to outlive its reputation as a backwater town.<sup>102</sup>

Washington’s urban growth and lack of infrastructure only perpetuated a reputation for filth and stench. “Washington was adopted as the site for a city for reasons among which sanitary advantages had no conspicuous place,” stated a census description of Washington, which had “grown to be a great capital without reference to these sanitary advantages, indeed largely in spite of their absence.” Sewers drained directly into the tidal flats of the river and left the organic matter exposed in the hot summer air. Stables wafted the smell of steaming manure into the buildings and streets of the wealthy and poor alike. The “emanations from this decomposition in such close proximity to the heart of the city are a recognized and palpable source of health.” Washington’s reputation followed it like the stench that emanated

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<sup>102</sup> Theodore Williams Noyes, *The national capital: Newspaper articles and speeches concerning the city of Washington* (Washington, DC: B. S. Adams, 1893), 24-26, 49-51.

from its waterfront and to the consternation of livid Washingtonians, improvement projects followed slowly (see figure 11).<sup>103</sup>

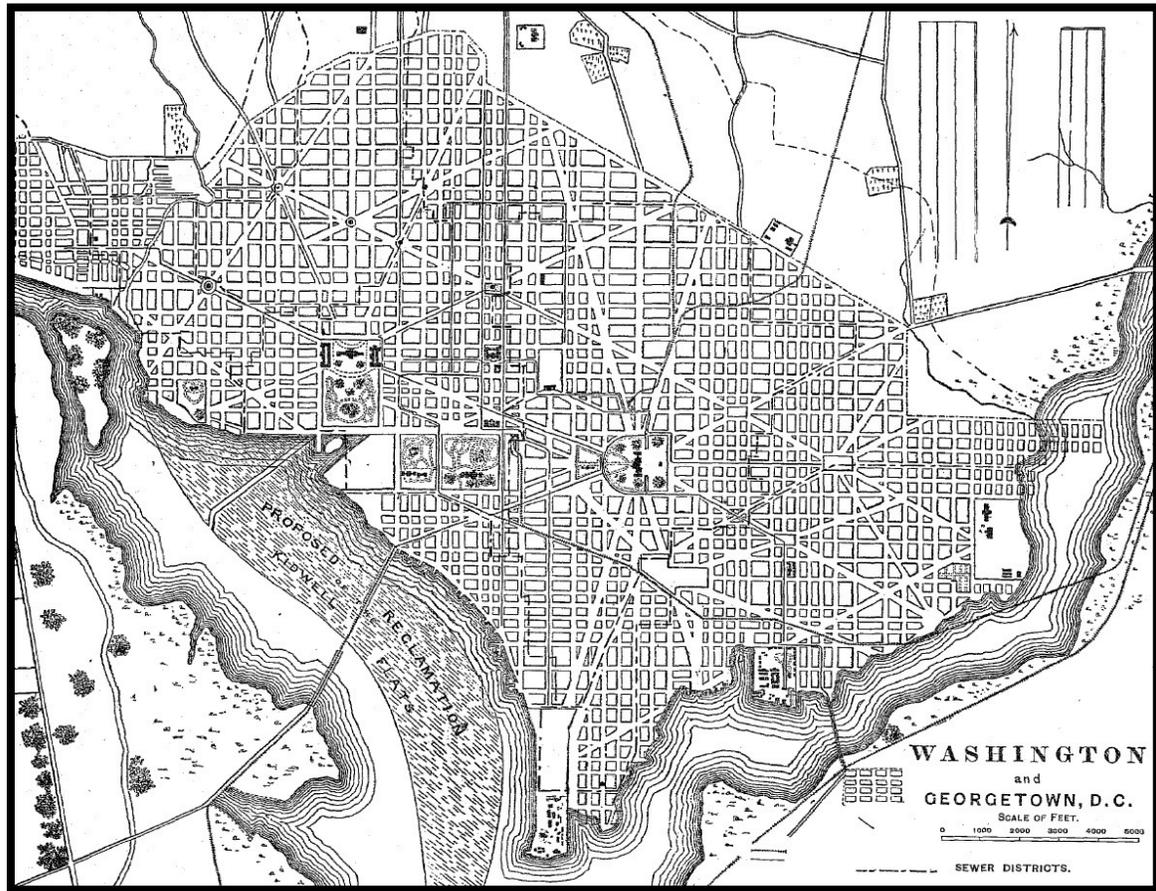


Figure 11. Map of the flats reclamation project and extent of the 1880s waterfront.

As the turn of the century neared, floods inundated the capital and left its residents furious. *The Washington Post* asked, “Must we be bathed in sewage, flooded with Potomac

<sup>103</sup> Census descriptions can be found in U.S. Bureau of the Census, “District of Columbia” in *Part II: Social Statistics of Cities in Southern and Western States*, by George E. Waring, Jr. (Washington: Government Printing Office, 1887), 39-43. Image on page 40-41.

overflows, and killed by malaria through lack of interest on the part of our lawmakers in the welfare of the Capital and its people?” The city was not particularly suited for drainage considering it was at one time a swamp and tideland. Every heavy storm brought potential for floods. Sewage flowed down the streets of the nation’s capital, as water pooled in government and private offices. The flooding encapsulated more than an inconvenience or horrid stench. At the heart of the flooding issue was the nation’s inability to control the dynamic forces of nature. A lack of control had tangible consequences as floods contaminated water sources and created health hazards like malaria and typhoid fever, and more importantly to some, disrupted the economic and political drive of the capital. In response, the Engineer Board of Washington appropriated \$400,000 for improved navigation and flats reclamation. The U.S. Corps of Engineers dredged the river and dumped river mud along the channel banks. Engineers literally raised new property from the river bottom. Nature was not so easily tamed, however, as Washington fought a battle to maintain the riverfront and keep the water out of the city. As the Potomac dropped silt from the mountains, new marshes and flats rose out of the water while harbors filled. Engineers created a straighter and deeper Potomac by building a new waterfront, but in the process they guaranteed a future of perpetual improvement. The river would never quietly acquiesce its momentum.<sup>104</sup>

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<sup>104</sup> Conevery Bolton Valencius, *The Health of the Country: How American Settlers Understood Themselves and Their Land* (New York: Basic Books, 2002), 142-144; U.S. Bureau of the Census, “District of Columbia,” 39-43; Cowdrey, *A City for the Nation*, 24-34, 39-41; Police and Post Praised,” *The Washington Post*, December 6, 1927. The years of 1875, 1878, and 1881 were particularly bad for floods.

Engineering projects coincided with a movement for a healthier and more recreation-friendly city in the Progressive movement of the 1890s. Squares, circles, and parks spread across the city, providing a picturesque, tranquil escape for residents and public employees in the heart of chaos. The city's improvement projects served to protect both the body and mind. An unhealthy setting begot an ill society, while a sanitary, contemplative surrounding advanced virtues and fervor. The new waterfront reduced the fears associated with tidelands as parks allowed for rest, beauty, and contemplation. Washingtonians needed the capital to visibly mirror their aspirations of form and function, deserving an environment along the banks of the Potomac that fit national potential. But despite these efforts, transforming Washington was easier said than done. Factories, tanneries, and mills in the Potomac headwaters threatened the city's drinking supply and the waste flowing from outlets below the city endangered oyster grounds downriver. The Potomac directly in front of the capital demonstrated the environmental consequences of urbanization and industrialization to a degree that could not be ignored. News headlines declared the "grossly abused" Potomac waters a "Menace to Health," as politicians and citizens grappled with what to do.<sup>105</sup>

Urban sprawl exacerbated water quality concerns as neighborhoods and transportation development pushed outward at the turn of the century. Residential development thrust both slums and upscale neighborhoods into the Maryland countryside. In the 1890s, Nevada Senator Francis G Newlands accelerated the sprawl by creating the

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<sup>105</sup> Theodore Williams Noyes, *The national capital: Newspaper articles and speeches concerning the city of Washington* (Washington, DC: B. S. Adams, 1893), 24-26, 49-51; Cowdrey, *A City for the Nation*, 24-34, 39-41; U.S. Bureau of the Census, "District of Columbia," 39-43. For "grossly abused" waters, see "Menace to Health," *The Evening Star*, February 18, 1905.

upscale residential neighborhood of Chevy Chase just outside of the city limits. Newland's influence and wealth helped shape the community through the purchasing of farm property and the charter of an electric streetcar line that connected the new neighborhood with the capital. Residents could enjoy more room and comfort in the new development, without sacrificing life or occupation in Washington. The technological innovation of electric car lines allowed cities like Washington to expand outside the confines of traditional transportation methods, like walking, horse, or buggy. Electric streetcars started to crisscross Washington in 1892 as the city became electrified. More importantly, this neighborhood set precedent for outward growth that others would follow in the next three decades. A half-century before nationwide suburbanization, Washingtonians largely began moving outside of the city limits into both Virginia and Maryland. Urban runoff, increased sewage, impervious surfaces, and other environmental consequences started replacing the costs of agriculture, like nutrient and sediment runoff, as farms became housing developments.<sup>106</sup>

Initial outward growth remained limited, however, as residents found themselves restricted by mass transit, like electric streetcars, or relied on horses, buggies, or old-fashioned walking. But progress over the next decade became defined by technology of the future, notably automobiles. Sprawl coincided with the adoption of cars. In 1906, the creation of the Virginia State Highway Commission spurred development of roads between northern Virginia communities and the capital. New stretches of road moved outward from the

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<sup>106</sup> Kenneth T. Jackson, *Crabgrass Frontier: The Suburbanization of the United States* (New York: Oxford University Press, 1985), 122-124. This section discusses the development of the neighborhood and the political influence that allowed it to happen. For more on the evolution of cities from walking to other forms of transportation, see *ibid.*, 20-44. For streetcars, see Cowdrey, *A City for the Nation*, 33.

capital's center to Maryland and Virginia. The roads followed "scientific road-building" principles that revolutionized the often muddy and worn roads outside of the city center. By grading hills and creating a solid foundation of sand and clay, scientific road building shrank both time and distance in metropolitan outskirts. Emerging from the Office of Public Roads in 1905, this "scientific localism" encouraged rural road building to drive small communities to utilize indigenous resources and customize building methods suitable for local soil and sediment conditions. The new process helped improve and grow the Washington road network while keeping costs down. While early automobile ownership remained limited, that quickly changed. Virginia, for example, only had 2,705 automobiles registered in 1910. By 1920, that state had 145,340 automobiles, and ten years later—386,664. With each passing year, the city spread outward and the metropolis transformed into a city of automobile commuters.<sup>107</sup>

This tumultuous urban transition prompted mounting support for simplicity and strength in the American natural environment. Out of the 1890s, Theodore Roosevelt remained one of the staunchest supporters of physical and mental exercise in the American outdoors. The environment could instill courage, perseverance, and strength. An urban society could never produce individuals and leaders that the country needed to serve as guides into the uncertain future. Outdoor labor and toil provided the answer to social ills and national infirmity. "A healthy state can exist only when the men and women who make it up

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<sup>107</sup> Christopher Wells, *Car Country: An Environmental History* (Seattle: University of Washington Press, 2012), 65-72, 80-85; Article, "Building Good Roads in Northern Neck," *The Times Dispatch*, April 4, 1910. For automobile numbers, see Virginia Department of Transportation, *A History of Roads in Virginia: 'The Most Convenient Wayes'* (Richmond: Office of Public Affairs, 2006), 30.

lead clean, vigorous, healthy lives,” Roosevelt proclaimed, “when the children are so trained that they shall endeavor, not to shirk difficulties, but to overcome them; not to seek ease, but to know how to wrest triumph from toil and risk.” Roosevelt lamented what Frederick Jackson Turner described as the closing of the frontier, but these virtues could still be found in landscapes like the Potomac. Recreation down the river took on all forms, from sailing, canoeing, fishing, camping to yachting and enjoying the fresh air of the beach. Mimicking the strenuous labor of rural residents in the outdoors—whether chopping wood, fishing, crabbing, oystering, or sailing—instilled values and virtues a city could never provide. Such glorification of the outdoors and physical activity permeated accounts of recreation on the river.<sup>108</sup>

The travels of Percy Budlong, as he escaped the bustling city for the quiet riverside, demonstrate the thoughts of Washingtonians. A businessman from Washington, Budlong had dreamed of canoeing a river since being a little boy in New Jersey. In 1905, he used some extra spending money to purchase a two-masted sailing canoe in order to bring that dream to fruition. Budlong travelled and camped the length of the Potomac demonstrating the sentiment of the time as he described the beauty, health, and a quaint shoreline of the river. It was an elixir for the city-weary traveler. He extolled the “cool and green and clear” water of the lower Potomac, expressing his love for the scenery, delicious seafood, refreshing water, and cool breeze.<sup>109</sup>

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<sup>108</sup> Theodore Roosevelt, “The Strenuous Life,” in *The Works of Theodore Roosevelt in Fourteen Volumes: The Strenuous Life* (New York: P. F. Collier & Son, 1900), 5; Nash, *Wilderness and the American Mind*, 149-152.

<sup>109</sup> Percy E. Budlong, *Canoe Cruises* (Washington, DC: Self-published, 1905), 12, 25.

But like Washingtonians before him, Budlong saw the river holding a significance that transcended any recreational or utilitarian values. The Potomac was the nation's river, sweeping by the powerful marble architecture and birthplaces of the nation's founders. "Father of his Country has lain these many years on the quiet hillside at Mount Vernon, and others who loved the Potomac in the early days of America are dead and gone," wrote Budlong, but "the great river still rolls on in its accustomed channel." Great leaders came and went but the river stayed the course as a foundation and guide for the country. The history of the shoreline coincided with the virtuous qualities of the landscape. The river was a place where the "tired city-dweller may find that rest which comes only from contact with Nature." The river served a historic and symbolic function, offering tranquility, virtues, and guidance as an escape from urbanity and its consequences.<sup>110</sup>

Recreation took on many forms on the river through activities, vacation, and good times, but it meant more than enjoyment; the river was a chance to partake in "the simple life." A life on the river stood in stark contrast with life in a growing capital, a rural environment at once accessible and detached from the busy life of city-dwellers. Every gust of wind pushed him further down the clear water away from the "muddy" waters of Washington. The condition of the river served as a metaphor for the state of the capital. Visitors looked at local residents as actors in a countryside play, beneficiaries of an abundant landscape and slow-paced lifestyle. Never mind the backbreaking work or inconsistent nature of livelihoods that depended on the environment. The river was both physically and mentally

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<sup>110</sup> Percy E. Budlong, *Down the Potomac* (Washington, DC: Self-published, 1905), 70.

set apart from the city. It was a romantic and healthy getaway, a chance to realize both a mental longing for a quieter life and a refreshing escape.

In his travels to Colonial Beach, Budlong recorded the river's popularity with vacationers of all sorts and means. One night while lying in his tent, Budlong watched "a row of brilliant electric lights...in mid-channel" as the Norfolk steamer swept by, the "saloons and staterooms crowded with people on their way to spend Sunday at the seashore." In a tranquil cove, he came upon a yacht whose "polished brass-work shone like gold." Further down the river he happened upon a small house that turned out to be a duck-hunting clubhouse in the winter. Just outside of Colonial Beach, Budlong watched children run up and down the beach at summer camp admiring his "pretty little boat." The handsome cottages of Colonial Beach lined the shore, with a boardwalk that extended out onto the water and a beach filled with people all "sunburned and healthy looking" as "life at the beach agreed with them." Budlong enjoyed "God's fresh air and sunshine," and wondered why "all the world does not go a-cruising—for is not this truly 'the simple life?'" The river played democratic host to middle class vacationers, wealthy yachters, avid sportsman, and children playing on the beach.<sup>111</sup>

Local communities and watermen often struggled to appreciate the vacationer's longing for a 'simple' life. As he passed a rowboat on the river, Budlong overheard one watermen state, "That fellow will sail down here to one of these points, put up his tent and cook his supper, and think he is having a fine time. Now, what fun do you suppose he sees in

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<sup>111</sup> Budlong, *Down the Potomac*, 3-12, 29-32, 36, 40-41, 56-57, 67; For references to muddy water in Washington, see Budlong, *Canoe Cruises*, 12; Budlong, *Down the Potomac*, 25.

that?" Amused, Budlong described the gentleman as "so accustomed to outdoor life that he was glad to get indoors and stay there when he could." Budlong was oblivious to the differences in rural and urban life. While using the river for recreation and contemplating its national significance, he chronicles the Potomac place of work. Boats passed him with watermelons piled high on deck, birds cherry-picked fish from the stationary traps as he floated by, and farmers unloaded firewood from oxcarts on the shore. He observed the material value of the river as he traveled; yet to him, work appeared idyllic and pastoral. Manual labor appeared to him as "taking life easy." One night, two men poling a boat along the shore startled him, "instead of the typical rustics, they proved to be two very well dressed and well educated young men." The young men surprised Budlong as their demeanor conflicted with his simple vision of the river's inhabitants. Washingtonians saw the river in romantic terms that did not easily fit with the visions of rural residents. To urbanites physical work may have been toil, but it was rewarding, simple toil that life in the city lacked. Rural folks and the 'simple' lives they led served a fundamental function in the urbanite's recreational experience on the river.<sup>112</sup>

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<sup>112</sup> For waterman's comment, see *Ibid.*, 48, 12; For examples of work, see Budlong, *Down the Potomac*, 29, 34-35, 48; For characterization of locals, see Budlong, *Canoe Cruises*, 31-34.



Figure 12. Colonial Beach pier with a steamboat dropping off visitors, circa 1913. Courtesy of the Colonial Beach Historical Society and Museum.

Budlong’s first leg of travel ended at Colonial Beach, highlighting Washington’s influence in the region. The city’s growth shaped the entire river. Washingtonian affluence fueled resort businesses, while effluent in the city provided plenty of incentive to flee to the small tidewater, riverfront communities. By 1912, the town of Colonial Beach claimed itself the “Atlantic City of Washington” where “pleasure-loving Washingtonians flock in large numbers to the cool breezes.” With excursion steamers carrying upwards of 900 vacationers there each day during peak season, the town invested in improvements marketable to out-of-towners (see figure 12). Residents and business interests built streets, large hotels, cottages, bars, bathing houses, restaurants, and improved access to sandy beaches. Seasonal business also supported progress—ice factories, wood mills, schools, post-offices, fire departments, telephones, and printers—that would have been inconceivable without the resort industry. Far enough from the obvious pollution of Washington, the resorts of the Potomac offered relief from the stress of the city, through activities like fishing, boating, and swimming, while

providing vacationers with familiar urban amenities. Thanks to recreation, real estate was also “booming” in towns like Colonial Beach as individuals capitalized on development of hotels, cottages, and service establishments. But the influx of capital and visitors spurred only localized improvements and development. Businesses and development still revolved around the wharves where steamboats dropped off customers (see figure 13). The capital city pushed customers down the region’s only highway, creating an environment where city met country as Washington could not be separated from the rural tidewater.<sup>113</sup>

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<sup>113</sup> Advertisement, “Potomac is Popular,” *The Washington Herald*, July 28, 1907. This advertisement was a full spread for Colonial Beach, including editorial and multiple small ads; “Colonial Beach,” *The Washington Herald*, August 2, 1912; Advertisement, “Potomac is Popular,” *The Washington Herald*, July 28, 1907; “Colonial Beach has a Boom,” *The Washington Post*, July 15, 1895; “Colonial Beach Joys,” *The Washington Post*, June 5, 1904; “Excursions,” *The Washington Post*, August 17, 1907; Advertisement, “Colonial Beach ‘The Atlantic City of Washington,’” *The Washington Herald*, August 2, 1912; Advertisement, “Hall Steamboat Potomac River Line Schedule,” *Northern Neck News*, February 6, 1920; “To Afford Easy Access to Potomac River Resorts,” *The Washington Post*, April 16, 1886.



Figure 13. Bathers in the Potomac posing for the camera. Courtesy of the Colonial Beach Historical Society and Museum.

Resorts, like Colonial Beach, benefited from the capital's poor condition that fell short of resident expectations. If the character of a city and people is reflected in its environment and architecture, what might inadequate infrastructure and unsanitary conditions in a *national* capital say? In 1911, Glenn Brown, the secretary of the American Institute of Architects, outlined a proposal for beauty, health, and recreation for the waterfront. The surrounding landscape had beautiful, albeit unrealized, potential. He stated, "it would be difficult to find a more beautiful and imposing river than the Potomac, with its wooded hills, cliffs, picturesque rapids and imposing falls," but its "beauties are lost to the people, its banks are being despoiled." The waterfront still reflected poorly on the nation's capital even after years of improvements. In turn, Brown proposed to dam the "disreputable-looking" Anacostia River, which was largely a marsh, to create a healthful water park. Brown

envisioned a future filled with “pleasure boats” as the “health and pleasure of future inhabitants will demand nothing less.” Such proposals illuminate the connection between health and recreation in the landscape during the early twentieth century. A healthy environment reflected a controlled environment with outlets for leisure. Such a vision for recreation was conspicuously intertwined with improvement projects to produce a healthy landscape, populace, and city. Washington, and by extension, the Potomac needed to serve the body and mind of its citizens.<sup>114</sup>

Residents had reason to focus on the health of the entire river as news headlines and reports kept water-quality issues front and center throughout the early twentieth century. In the headwaters of the Potomac, tanneries and mills leached chemicals, while boaters complained of gas tar from industrial sources. Along the city waterfront, sewage still fouled the tidelands and the population was only increasing. By 1914, more than eighty miles of sewer lines in Washington serviced approximately 320,000 people, emptying raw sewage directly into the Potomac just outside the city. Poor drainage and tidelands created breeding pools for malarial mosquitoes and sewage contamination provided the ever-present danger of typhoid fever as human waste sat in the shallows. Fears of typhoid outbreaks caused residents to question everything that came in contact with the river. Rumors spread of steamers and resorts taking inadequate sanitation measures, or even worse, intentionally ignoring health threats through actions like refilling coolers directly from the river. Calls for the health department to inspect resorts, excursion steamers, and passenger railway cars rose

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<sup>114</sup> Glenn Brown, *The Development of Washington with Special Reference to the Lincoln Memorial* (Washington, DC: Chamber of Commerce of Washington, DC, 1911), 13, 19.

with every allegation of typhoid. If it came into contact with the river, it was unsafe. The river could not absorb the sewage of hundreds of thousands of people living along its banks. Health concerns literally bubbled to the surface as the early twentieth century capital struggled to coexist with the surrounding environment.<sup>115</sup>

No aspect of the river remained safe from fears, rumors, and scrutiny—especially oysters. By 1910, concerns reached a fever pitch, forcing the U.S. Department of Agriculture to investigate Atlantic coastal waters for contamination of oyster grounds. The correlation between typhoid and oysters had been well established in the previous decades. In 1892, health officials implicated oysters in the typhoid deaths of four Wesleyan University students. Twenty-nine students and alumni came down with a fever after eating raw oysters at a series of fraternity initiation suppers. After a protracted search, officials determined that a Middletown, Connecticut dealer supplied the oysters from a Fair Haven, Connecticut oyster house. The oyster house soaked the oysters along the shoreline of the Long Island Sound before being sold. Unfortunately for the Wesleyan students, the soaking grounds were only a few hundred feet from the private sewer drain of a house where a particularly severe case of typhoid fever had devastated a family. This scare prompted a decline in oyster sales amounting to upwards of \$100,000 in Connecticut alone. Again in 1902, news broke about twenty individuals in Emsworth Harbor, England who contracted typhoid after consuming raw oysters at a banquet. By 1911, the department produced a lengthy report that focused on

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<sup>115</sup> For boater's complaint, see "Complain of River Pollution," *The Sunday Star*, June 11, 1905. For more information on water-quality issues, see "A Clean-Up Chronology," *The Washington Post*, November 10, 1977; For typhoid fears, see "To Inspect Resort Water," *The Washington Post*, August 18, 1909.

the dangers of shellfish contamination along the heavily populated Atlantic Coast due to “promiscuously emptied sewage.” Health concerns around oysters caused particular distress for the city as the food crossed all class barriers. Oysters adorned the silver plates of the rich as well as the wooden tables of the working-class at the turn of the century.<sup>116</sup>

This fear gripped Washington by 1912. The Pure Food Bureau fired the first shots, alleging that any oysters taken above Blackstone’s Island were unsafe due to the effluent of the capital. Almost eighty miles below the city, the designation of Blackstone’s Island threatened oystermen almost all the way to the Chesapeake. In response to the allegations and in defense of the oyster industry, the Virginia Fisheries Commission responded swiftly and sternly, “that an unwarranted hardship is being worked upon thousands of families, and that the public is unnecessarily scared.” To the commission, pollution from Washington did not mean that oysters were “dangerously contaminated” downriver. It challenged the “pure food faddists” of Washington to “produce one typhoid germ” before making such inflammatory statements. A connection between typhoid and Potomac had not explicitly been made, but the potential for disease remained. This was a problem that would not go away. Washington, in fact, consumed so many oysters that a few years later one newspaper stated, “If other cities of the same size used as many oysters as Washington, there would always be a

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<sup>116</sup> The Wesleyan University case is described in Tom Andersen, *This Fine Piece of Water: An Environmental History of Long-Island Sound* (New Haven: Yale University Press, 2002), 94-99; For Connecticut oyster numbers and discussion of Typhoid fever and oysters, see Editorial, *Evening Star*, page 6, December 4, 1894; U.S. Department of Agriculture, Bureau of Chemistry, *Shellfish Contamination from Sewage-Polluted Waters and from Other Sources* by George Whitfield Stiles, Jr. (Washington, DC: Government Printing Office, 1911), 6-7. For early twentieth century health concerns and information on Emsworth Harbor, England, see Clyde L. Mackenzie, Jr., “Causes Underlying the Historical Decline in Eastern Oyster Landings,” *Journal of Shellfish Research* 26, no.4 (2007): 928-929.

shortage instead of an excess.” Water quality issues and a dependence on oysters was not a problem unique to the Potomac. Baltimore decided in 1912 to develop a waste-treatment system specifically to protect their oyster industry.<sup>117</sup>

The oyster debates of 1912 grew out of wider health concerns at the turn of the century as urbanization and commercialization disconnected Americans from the products they consumed. The end consumer in one location had little or no relationship to the producer. In turn, the unclean or unscrupulous acts of producers consistently tested the trust of consumers in the early twentieth century. Oyster dealers could have soaked their oysters yards from a neighboring sewer outlet, or harvested too close to the effluent of the city. There was no way to know for sure. This was not just a problem for oysters. Since the 1880s, the hog and cattle industry in Chicago revolutionized the country’s pattern of consumption. Local butchers struggled as markets offered standardized cuts of meat at lower costs that local businesses could not match. Shoppers also purchased consumer goods from mail-order department store catalogs like Montgomery Ward and Company or Sears, Roebuck and Company instead of local stores. Products like meat, timber, and a variety of goods became commodities for sale across a growing nation held together through the lumber and steel of a

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<sup>117</sup> “Ruin Threatens Oyster Industry,” *The Times-Dispatch*, September 24, 1912; “Potomac Oysters: Not Condemned,” *The Times-Dispatch*, October 10, 1912; For early twentieth century health concerns, see Mackenzie, “Causes Underlying the Historical Decline in Eastern Oyster Landings,” 928-929. For quote about Washington consumption, see Editorial, “Washington Oyster Market,” *The Fishing Gazette*, March 22, 1919; For more on the Baltimore’s waste treatment system adoption, see Keiner, *Oyster Question*, 3, 34, 104. For more on the response to the Blackstone Island accusation, see “May Procure New Planting-Ground,” *The Times-Dispatch*, September 30, 1912.

massive railroad network. A city was no longer constrained by its direct surroundings, and with that freedom came with new consumer risks.<sup>118</sup>

This disconnect in consumption created questions of safety. As one writer of the *Evening Star* described years earlier, gains in bacteriological science raised issues for many common American staples. “There seems to be scarcely an article of everyday consumption that has not at some time or other been discredited and pointed out by the finger of science as dangerous,” the writer stated, the “latest victim of the all-consuming microscope is the oyster.” By 1906, with the publication of Upton Sinclair’s *The Jungle*, food manufacturing processes and sourcing concerns were squarely in the spotlight. Part and parcel of a larger food standardization and health movement across the country, food laws began regulating processing methods for shipment. New regulations prohibited practices like shipping oyster meat in direct contact with ice or holding oysters in local brackish water to purge them before sending to market. The new health standards meant to build confidence in the industry as well as protect the health of the American public. The oyster industry joined in the fight to protect the oysters’ reputation as a safe and healthy food source with the creation of the Oyster Grower and Dealers Association. The association delivered a means to protect the oyster industry’s reputation among the onslaught of derogatory newspaper articles. By running advertisements, encouraging industry compliance with health standards, and reassuring the public, the association provided a public relations arm for the industry. But

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<sup>118</sup> William Cronon, *Nature’s Metropolis: Chicago and the Great West* (New York: W.W. Norton & Company, 1991), 247-257, 333-340.

despite the hard work of the industry and association, oyster consumption and demand continued to wane as reports surfaced about potential health concerns.<sup>119</sup>

Oysters functioned as a litmus test for the environmental consequences of urban growth and a continually disconnected society. In 1915, the Governors of Maryland and Virginia, along with the Board of the District of Columbia, requested an examination of the Potomac by the United States Public Health Service. The report brought specialized attention to the river as all “questions involved in the sanitary survey of navigable waters...are of immense interest to the public health, not only to the communities most directly affected, but also to the whole nation.”<sup>120</sup> The report addressed the safety of the oyster industry in the tidewater, as well as the upper river’s role as a water supply. Whether eating or drinking, Washingtonians had an interest in the health of the river. The report also highlighted another concern of Washingtonians—the enduring belief that people were a product of their environment. “An unsightly, ill-smelling stream encourages insanitary practices along its banks,” noted the report, “and the construction of the better and more sanitary type of buildings is distinctly discouraged.” There lingered a Progressive fear that the condition of the Potomac reflected poorly on the city and a polluted river may produce an equally tainted future. Although studies of the Potomac dated back to 1886, each prior study pursued a

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<sup>119</sup> The quote of food science advancement can be found, Editorial, *Evening Star*, page 6, December 4, 1894; Mackenzie, “Causes Underlying the Historical Decline in Eastern Oyster Landings,” 929-930.

<sup>120</sup> “Examine Navigable Waters,” *The New York Times*, May 22, 1915. The other bodies of water included the Ohio River and select coastal waters along the Atlantic and Gulf Coasts.

narrow scope or isolated issue with little integration for the greater Potomac region. This report sought to remedy the prior lack of synthesis.<sup>121</sup>

The headwaters of the Potomac consisted of small communities and industrial centers, before flowing past Washington and the agricultural communities of the tidewater, each producing a variety of pollutants and wastes. While the headwaters dealt primarily with industrial byproducts of tanneries and mills or the acid drainage of coalmines, the tidewater struggled with human, agricultural, and animal waste. Bivalves like oysters filter great quantities of water and are quite literally a product of their environment. If the river contains waste, the oysters eat waste. Rural residents emptied privies directly into the river or over the sides of boats, while cities and towns piped untreated sewage directly into the river. But the idea of ‘out of sight, out of mind’ only worked so well when 394,000 residents of a watershed emptied approximately 63 million gallons of sewage into the Potomac every day by 1916. The stakes were high not only for the oyster industry, but also for the locals and working-class of Washington and every rural community below. Locals walked down the road, “opening oysters with pocketknives, without stopping to wash the outside of the shells, and eating the oysters directly from the shells.” Ironically, the dependence of so many people on the oyster endangered the oyster’s role as a cheap, safe food source.<sup>122</sup>

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<sup>121</sup> U.S. Public Health Service, *Investigation of the Pollution and Sanitary Conditions of the Potomac Watershed* by Hugh S. Cumming (Washington, DC: Government Printing Office, 1916), 1-22; For more information on the Progressive conception of people being the product of their environments, see Matthew Klinge, *Emerald City: An Environmental History of Seattle* (New Haven: Yale University Press, 2007), 130-138.

<sup>122</sup> For quote and sewage numbers of Washington and the watershed, see U.S. Public Health Service, *Investigation of the Pollution*, 64, 72-74, 130-132, 220-230.

The concentration of waste reflected the urbanization that transformed both the city and country in the early twentieth century. Urban centers like Washington put stress on the antiquated sewer systems while concentrating the daily wastes of people into a small area. Between 1900 and 1910 the urban population of the region increased by almost 22 percent, with Washington contributing 60 of the 63 million gallons of untreated sewage every day. But the growth of Washington was not just in the city center. Rather, the fastest growth happened outside the boundaries of Washington and Georgetown, where the population grew more “than fourteen times that of Washington and eight times that for Georgetown.” Three fourths of the region’s growth resided outside the original city limits, pushing Washingtonians deeper into both Virginia and Maryland. The problems of urbanization quickly followed those new residents. Residential communities replaced small farms near the national capital as land became a hot real estate commodity.<sup>123</sup>

Population growth did not coincide with progress in waste treatment. Pumped from the sewer system in a long pipe under the river, the city’s waste expelled directly into the middle of the river just downstream from Washington. Despite the “matches, small bits of soap, paper, and other material” floating in slicks on the river’s surface, the Public Health Service concluded the smell and sight of the output was rather inconspicuous. The report stated that at “no point” above Washington was the water safe for consumption without

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<sup>123</sup> For sewage numbers of Washington and the watershed, see U.S. Public Health Service, *Investigation of the Pollution*, 64, 72-74, 130-132, 220-230. U.S. Bureau of the Census, *Thirteenth Census of the United States: 1910, Supplement for District of Columbia-Population, Agriculture, Manufacturing & Mines and Quarries*, Washington, DC, 569, 580. For 1920 growth see, U.S. Bureau of the Census, *Fourteenth Census of the United States, Compendium District of Columbia, Statistics of Population, Occupations, Agriculture and Manufactures for the District* (Washington: Government Printing Office, 1924), 1-10.

treatment while the capital waterfront was “unsafe for bathing purposes.” Notwithstanding those concerns, there was no evidence of contamination to the oyster beds downriver from Washington due to human waste or pollution. The Public Health Service decided the river’s size diluted the waste while the microorganisms and tidal grasslands allowed a means of self-purification. The report, however, did suggest the installation of primary treatment system for Washington, indicating that although the river could handle the existing output of waste—the future was no guarantee. Despite incredible levels of pollution that made the water unsafe for drinking and bathing around Washington, the lower tidewater escaped direct indictment by the Public Health Service—but the water was far from pure.<sup>124</sup>

Yet, Washingtonians continued to see two rivers, one struggling with reality, the other imbued with national meaning. Writers like Ulmo Randle connected the environment to a larger symbolic significance and an environment capable of instilling virtue. He wrote the capital’s influence could be felt around the world and stimulated “mankind to higher ideals.” His argument rested on the Potomac, stating that Washington would become the “largest city on the American Continent.” If the Thames River in London and the Seine River in Paris could harbor world powers, the potential for the grand Potomac was limitless. The uninspiring rivers of the “mercurial Frenchman and . . . the commercial Englishman” created the “largest and most important towns of their respective countries;” therefore the Potomac harbored potential to create the nation’s most important city. Randle’s river was a measure of glory and prestige; only a world power could harbor such a river. Like his contemporaries,

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<sup>124</sup> U.S. Public Health Service, *Investigation of the Pollution*, 64, 72-74, 130-132, 220-230.

Randle's outlook reflected the thought that environments shaped the people around them. His perceptions mirrored the classical comparisons that arose in the 1880s.<sup>125</sup>

But connections like this became harder to make as the river's water quality worsened. The writings of Paul Wilstach embody the evolving descriptions of the Potomac as changes in the landscape became visibly apparent. A writer infatuated with the Potomac, he described the river as apart from all others, "hallowed with matchless historic figures," and the "epitome of our national life." Filled with white sails and the "nebulous smoke" of steamers, the "peaceful and benevolent" river embodied a pastoral and romantic environment (see figure 14). Capturing the capital's landscape, Wilstach found a "curious inadvertent appropriateness in the fact that the national capital, bartered in an irrelevant political deal, should have been set down at the head of tidewater Potomac." His river played an active agent in the founding of the nation and as an inspiration to past national leaders. It produced the "finest flavor of our colonial civilization and an unsurpassed group of political philosophers and patriots."<sup>126</sup> The river was a pantheon for national celebrities, "the Lords Baltimore, who planted the first settlement of Maryland...the Calverts, the Lees, the Carters, the Hansons, the Stones, the Fitzhughs, the Masons, the Mercers, and the Fairfaxes." His Potomac inspired great leaders and minds, shaping the rise and development of the nation.<sup>127</sup>

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<sup>125</sup> Ulmo S. Randle, *Reminiscences*, (Washington, DC: Judd & Detweiler, 1924), 5, 29-38.

<sup>126</sup> Paul Wilstach, *Potomac Landings* (Brooklyn: Braunworth & Co., Inc., 1920), 22-23, 363.

<sup>127</sup> Paul Wilstach, "Approaching Washington by Tidewater Potomac," vol. 57 of *The National Geographic Magazine Index* (Washington, DC: National Geographic Society, 1930), 372-392.



Figure 14. Steamers and wharves of the Potomac held a romantic allure to Washingtonians. This is an image of Currioman Bay Landing in Virginia circa 1915-1930. Photo is courtesy of waterman Millard ‘Bunny B’ Bryant of Montross, Virginia, whose father is in the boat to the top right.

And yet, in the middle of his eloquent praise of the environment, Wilstach departed from past descriptions of the Potomac River. He noted the blend of “old and new, of past and present, of ruin and restoration and modern magnificence.” The river, while magnificent, historic, and nationally significant, was no longer pristine. Overfishing diminished the fisheries to a “fraction of their earlier worth,” while water quality remained a contentious

issue. Evidence of the changing Potomac waters, the description lacked the inviting words of authors in the past by portraying a muddied, tired, and hard environment. The 1920s signaled a shift from grandiose prose to mitigated and poignant descriptions of a historic, but ailing body of water.<sup>128</sup>

Ongoing urban growth and the complex tangle of interests within the city provoked a variety of responses from Washington residents in the 1920s. “But Washington seems to be growing with a grace that bespeaks normal development and displays little of the elephantiasis of our giant cities,” reasoned one article describing the city, before alluding to the necessary costs of urbanization, “True, our needs call for great stacks that belch forth smoke and soot. We like to feel like our capital is free from them. We must work to live; but may we not put on fine raiment once in a while?” Such a description appears resigned to the costs of urban ‘progress,’ and suggests the capital should make the best of it through aesthetically pleasing development.<sup>129</sup>

The evidence of water quality issues and encroaching development into the surrounding landscape, however, stirred a strong preservationist response from other local residents. To prevent the Great Potomac Falls from coming under the control of power

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<sup>128</sup> Wilstach, *Potomac Landings*, 347-351. Wilstach notes a variety of species found in the Potomac in the 1920s, “numerous species, of sturgeon, herring, shad, white perch, sun-fish, bass, perch, darters, catfish, eel, lamprey, and brook trout... In rare instances, salmon, shark and porpoises have appeared in the Potomac.” This sheds light on the biodiversity of the 1920s Potomac, particularly the mention of sturgeon, herring, shad, and salmon. Many of these species became extremely rare or regionally extinct by mid-twentieth century. Likewise, author Isabel Anderson captured a cold, cloudy, and muddy Potomac in a trip down the Potomac with friends on a yacht, see Isabel Anderson, *Presidents and Pies: Life in Washington, 1897-1919* (Boston: Houghton Mifflin Company, 1920), 46-47.

<sup>129</sup> “Superb Washington of the Future,” *The New York Times*, November 30, 1924.

development companies, citizens urged Congress to “acquire the land about Great Falls and along the Potomac, while the land may be had at a reasonable price and while the forest and landscape remained unmarred.” Capital development and residential sprawl pushed further into the countryside and Washingtonians saw it only a matter of time before the scenic qualities of the region fell to the engineers and expansion.<sup>130</sup>

Yet another familiar response, depending on means, was to leave the city and avoid the problems of urban growth altogether through weekend trips to the lower tidewater. Washingtonians continued to use the river as an escape, from the decks of steamboats to the comfort of a yacht. Steamers pressed down the river, stopping along community and resort wharves, while passing workboats and private yachts. The presidential yacht, *The Mayflower*, frequented the lower Potomac during the terms of Roosevelt, Wilson, Harding, and Coolidge. The presidents fancied slow cruises to the mouth of the river, occasionally stopping at historic landmarks or hunting and fishing along the way.<sup>131</sup>

In just over a century, Washington transitioned from a small town of 14,093 residents to a metropolis of 437,571 residents. Between 1910 and 1920, the growth rate of the city hovered above 32 percent, more than double the growth rate of the nation. The majority of development continued to push outside of the original city limits. More concerning still was the density of the capital. In two decades, the population rose from 4,645 to 7,293 people per

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<sup>130</sup> “Asks U.S. Buy Potomac Sites,” *The Washington Herald*, March 14, 1922.

<sup>131</sup> “The President’s Trip Over,” *The New York Times*, November 25, 1901; “President Ends Cruise,” *The New York Times*, January 24, 1916; “Harding Back From Potomac Trip,” *The New York Times*, June 21, 1921; “Coolidges Depart For a Sunday Cruise,” *The New York Times*, July 20, 1924; “Coolidges on River Trip,” *The New York Times*, November 23, 1925; “President On the Mayflower,” *The New York Times*, March 14, 1926.

square mile. The incredible concentration of residents stressed the old sewers and encroached into areas without infrastructure. Urban sprawl coincided with the segmentation of the city. White middle-class and wealthy Washingtonians moved outside of the city limits to the surrounding suburbs of Maryland and Virginia. Demographic counts of the established precincts divided the capital into white, black, and foreign/black neighborhoods (see figure 15). Many suburban areas outside of the city limits divided along race. The wealthiest suburban neighborhoods were almost entirely white, while neighboring precincts housed African Americans. The inner city housed African Americans and immigrants, primarily from Russia, Ireland, Italy, Germany, and England. The divisive nature of the city demonstrates the level of sprawl that the city experienced in the first three decades of the twentieth century. People with the means escaped the dense, diverse slums of the inner city, retreating to the suburban neighborhoods in Virginia and Maryland.<sup>132</sup>

The transportation improvements of the 1920s guaranteed convenient access across the Potomac into northern Virginia and Maryland. This access supported a growing migration to Washington's suburbs. In 1923, the new Francis Scott Key Bridge opened up a link from Georgetown to Rosslyn, while construction began on the new Memorial Bridge from Arlington to Washington in 1926. They replaced the older railroad and antiquated structures from the nineteenth century. Similarly, bridges across the Eastern Branch, or Anacostia River, ensured continual growth in the countryside of Maryland. The city sat

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<sup>132</sup> Population increase is from 1800 to 1920, see U.S. Bureau of the Census, *Population: District of Columbia – Composition and Characteristics of the Population, 1920*, Prepared under the supervision of William C. Hunt, Fourteenth Census of the United States: 1920 Bulletin, 1-16. Image from page 6. The foreign nationalities are in the order of population numbers, with Russians being the most common.

poised to stretch outward as government employees and the growing capital workforce looked to the suburbs of Washington for residence. In turn, the sprawl of the city fostered a growing voice for the improvement of transportation and roads in the surrounding landscape. The more people that moved out of the city, the more they called for improvements to increase convenience and accessibility.<sup>133</sup>

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<sup>133</sup> “Arlington Bridge to Cost \$10,000,000,” *The New York Times*, August 12, 1927; Theodore M. Knappen, “Imposing New Portal for Washington,” *The New York Times*, September 28, 1924.

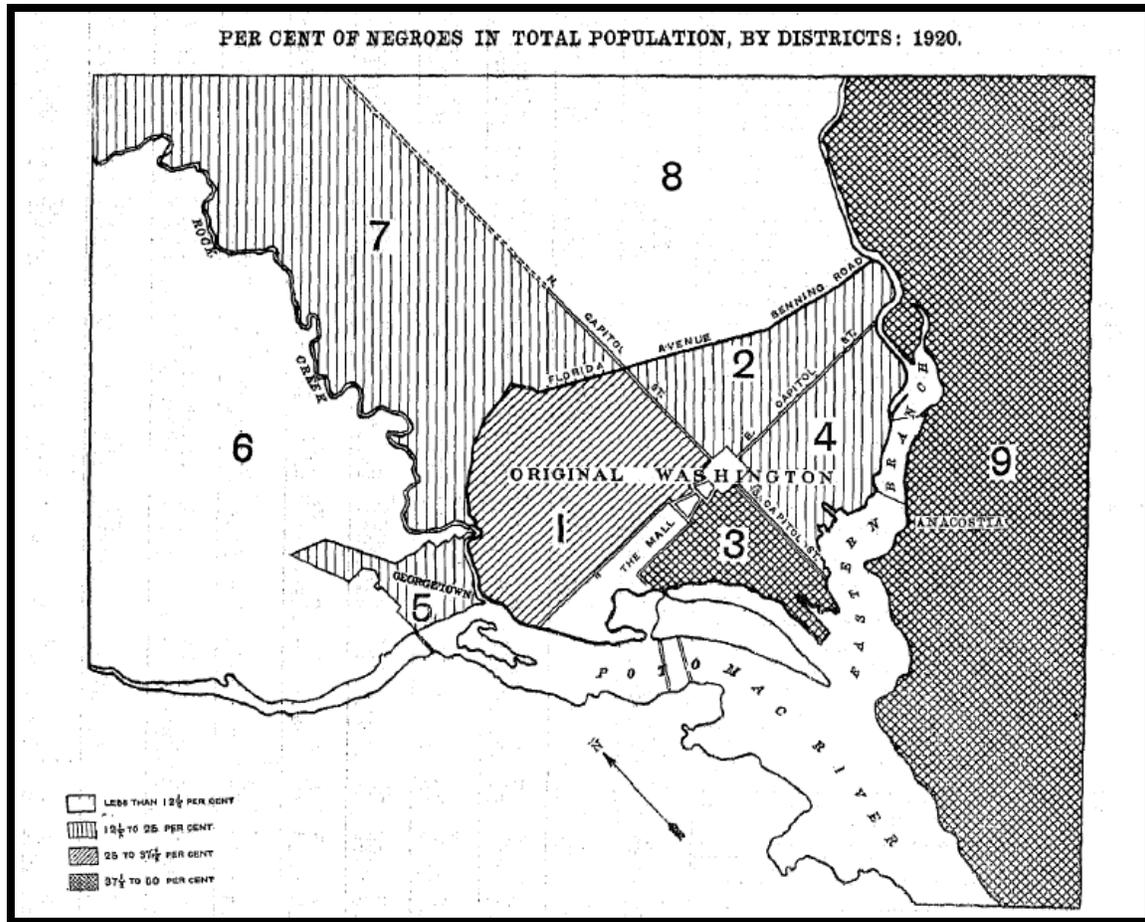


Figure 15. Distribution and segmentation of the city based on race in 1920.

The slipshod nature and consequences of development forced government action. Congress charged the Capital Park and Planning Commission with the future growth and planning of the city in 1926. Congress asked the commission to develop a “comprehensive, consistent and coordinated plan for the National Capital and its environs in Maryland and Virginia.” The commission was to oversee not just the growth of residential sprawl, but “to prevent the pollution of Rock Creek, the Potomac and Anacostia Rivers; to preserve the forests and natural scenery in and around Washington.” The aesthetic qualities, or ‘fine

raiment,' of the nation's capital remained paramount. Washingtonians wanted outlets for exercise and contemplation. The movement for coordinated planning also mitigated the visible consequences of chaotic growth that resulted in urban slums and coinciding filth. The new commission promised "harmonious developments" that would "develop on the Potomac the most magnificent city, as a seat of government, that man has ever produced." The city deserved a fitting environment. The aesthetic concerns for the city coincided with a drive to incorporate the historic nature of the region, while making these amenities accessible and convenient for visitors and residents. A national parkway project was to connect the Great Potomac Falls, just west of Washington, to the home of George Washington in Mount Vernon. The bill, in part, ensured a "plan for preserving the natural beauties of the region for all time against the encroachment of industrial and residential development," while allowing visitors to utilize both the scenic and historic qualities of the capital.<sup>134</sup>

By the late 1920s, the capital had a well-connected system of parks, a deepened and straightened waterfront, along with new property thanks to the tons of dredging spoils from the river bottom. The Anacostia River was largely filled in, reducing malarial conditions, and serving as land for gardens. The reclaimed land provided new space for government buildings, statues, monuments, botanical gardens, and arboretums. The planning commission

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<sup>134</sup> Quote from Oliver McKee Jr., "Potomac River Beauty to Be Developed Anew," *The New York Times*, March 9, 1930; Duryee, *A Historical Summary of the Work of the Corps*, 37-39, 45-46, 63-66; Quote about the plan, see "Coolidge Names Capital Park Commission To Plan for Development of Washington," *New York Times*, May 20, 1926. For quote about proposed magnificence, see "Washington Will Gain in Grandeur," *The New York Times*, June 20, 1926. The commission started out as the National Capital Park and Planning Commission two years earlier, expanding to accommodate park advocates, see Cowdrey, *A City for the Nation*, 51. For growth and planning of Washington 1900-1930, see *ibid.*, 33-46, 47-52.

sought to oversee the inevitable growth that the city faced, while ensuring an aesthetic quality and access to historic sites across the metropolis. The city finally started to resemble the capital of the present. Cherry blossoms bloomed along the tidal basin, while the Washington monument and Lincoln Memorial stood imposingly in the background. Yet, the residential sprawl threatened to swamp the existing infrastructure and services of the city as increasing traffic damaged the inner city and outlying roads. The plans for gardens, impressive buildings, and sanitation contrasted with the ongoing consequences and results of urbanization. These goals and concerns foreshadowed the growth that would swiftly shape Washington and the Potomac from the mid 1930s to 1970.<sup>135</sup>

At the turn of the century Washington struggled with the surrounding environment. The tidelands festered in the sun as sewage lined the marsh, wafting mosquitoes and smells into the cramped, dank city. Storms flooded the old sewer systems during heavy rainfall and tainted the city, underscoring a lack of control. But the city grew. Washington mirrored a nationwide shift to urban environments as people left the rural countryside. The 1890s saw the beginning of suburban sprawl as electric streetcars opened up Maryland's rural countryside. In addition, new bridges encouraged residential development outside of the city limits. As people chose to live outside of the city, the consequences of urbanization followed them. Urban ills pushed Washingtonians to flee the capital during the summer months. Both a filthy reason for leaving the city and the deliverer of Washingtonians to resorts, the river took steamboats, yachts, sailboats, and canoes down the tidewater away from the corrupting,

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<sup>135</sup> Cowdrey, *A City for the Nation*, 33-46, 47-52

polluted metropolis to simplicity and tranquility. Theodore Roosevelt pushed the virtues of strenuous, outdoor activity that individuals like Percy Budlong personally adhered to and recreational activities reflected. The peaceful tidewater river was healthy for mind and body, something the urban setting failed to provide.

The urbanization of Washington also reflected a budding problem across the country. Cities disconnected the individual from the world around them. They no longer knew the producer of their goods, the local butcher, or the local corner store. This disconnect raised new fears and concerns, manifesting in a debate over the health and safety of the river water and oysters. The existing structure could not accommodate the population and the river suffered. In turn, the city itself suffered. The inner city adjacent to the dirtiest parts of the river housed minorities and immigrants, while the wealthy whites fled to the suburbs away from the fouled river and city riff-raff. Writers and Washingtonians found it hard to describe the river in the romantic prose of the 1880s as the visible decline precluded such language. Sewage and algae fouled their imaginations and meaning.

And yet, Congress and residents pushed to create a metropolis that could provide a healthy, sanitary environment that was both appealing to the eye and durable for future growth. The Capital Park and Planning Commission promised a coordinated future that served to mitigate the ongoing issues of sprawl and development. Residents mobilized to protect the natural and historic amenities of the surrounding area. The Potomac was in the throes of change as an ever-growing capital sprawled into Virginia and Maryland. Commuting became the norm by 1930 as more than half of the employees working in the

District of Columbia came in by automobile.<sup>136</sup> Washington was a commuter city before the post-WWII suburban boom. The Potomac region stood poised ready to explode with a growing infrastructure and population.

Washingtonians needed a different river than the rural communities of the tidewater. They saw the health of the environment as a reflection of the moral and physical health of the city. As the river went, so did their comfort in the Potomac landscape. The environmental decline posited a reaction from residents in protecting the river and the surrounding landscape or fleeing from it. This varied in degree and sentiment, but the early twentieth century capital held many who feared environmental decline because of what it meant. Care for the environment did not suddenly arise in the 1960s; it took many shapes and forms in the prior decades. But the change from a rural, agricultural environment to an urban and suburban one brought with it other consequences. Impervious surfaces exacerbated chemical and pollution runoff as a growing populace increased sewage output and pollutants. Urbanization added to the list of problems the river endured, complicating the ever-changing environment for both urban and rural residents. But even as the physical environment changed, Washingtonians, Virginians, and Marylanders continued to need the river for recreation and escape.

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<sup>136</sup> Jackson, *Crabgrass Frontier*, 174.

#### Chapter Four: “Strong Bidding in the Tourist Market”

“Long contentment with mere isthmian intercourse with the mainland is giving way to desire for regional and inter-peninsular connections, and new bridges are slowly spanning the estuaries,” wrote L.A. Wolfanger in *Economic Geography* in 1931. The Potomac, which at the close of the Civil War was a premiere transportation asset, now restricted the needs of the rural and urban residents of the tidewater. Yet hope remained. “Failure to encourage railroad building in earlier years is gradually being offset by the construction of new, or the improvement of old, highways, opening up the less accessible areas or linking up existing roads with the surrounding world,” Wolfanger concluded. Isolation, due to the river, held back both city and country from developing the region to its full potential. But Wolfanger’s observations go beyond the agricultural commercialization and transportation infrastructure of the region, as he noted that “Much interest is also being shown in restoring and commercializing the wealth of historic features, and there is strong bidding in the tourist market.” Wolfanger’s prescient comments underlined a transition that was well underway by the early 1930s as parts of the region became accessible for new recreational development. “The region is to some extent becoming a retreat for well-to-does,” he wrote, and little did he know at the time, the region would be transformed in the coming decades as more and more people bought up parcels of the shoreline for personal retirement and weekend retreats.<sup>137</sup>

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<sup>137</sup> L. A. Wolfanger, “Abandoned Land in a Region of Land Abandonment,” *Economic Geography* 7, no. 2 (April 1931): 173-175. The title of this article speaks to the patchwork of abandoned farms, likely due to the agricultural depression of the 1920s, that dotted the tidewater landscape.

The river increasingly served the recreational interests of Washingtonians, Virginians, and Marylanders from the 1880s to the end of the 1920s. Recreation planted the seeds of change long before Wolfanger's description of the region. But what his article does illustrate was the momentum with which the rural Potomac countryside transformed in the 1930s. As seen in the prior chapters, the river played host to material interests of the fishing industry and agricultural communities of the rural tidewater, as well as to the residents of the expanding metropolis of Washington. Both parties needed and valued different aspects of the landscape, both cultural and physical, which led to a complex mix of interests and uses.

This chapter investigates that complexity and the transformation of the Potomac shoreline that followed. The economic depression of the 1920s and 1930s drove farmers and watermen from the shoreline while combining with rapid urban expansion to offer new opportunities for shoreline development. Subsequently, environmental concerns and competition seriously threatened the river's value as a place of farming, fishing, and harvesting, while visitors purchased river property for weekend and retirement retreats. These visitors brought new strains of environmentalism and conceptions of what the shoreline should look like and how it should be used. In turn, rural tidewater residents found themselves disconnected from the shoreline as vacationers with a vested interest increasingly voiced support for Potomac restoration and rejuvenation. Despite the traditional and ongoing role of work along the river, these physical and social transformations inextricably tied the river's value and future to recreation by the 1960s as Lyndon B. Johnson called for restoration. The Potomac's role as a place of play usurped competing values and uses. Johnson's declaration highlighted the inability of Americans to conceive of a contested

Potomac as a place of both work and leisure. The implications of this transition and exclusion shaped, and continue to shape, contemporary environmental goals and raise questions about the process of restoration.

The early 1930s found the Potomac resting on a precarious ledge as the agricultural depression of the 1920s merged with the collapse of the national economy. If the stock market crash on “Black Tuesday” of October 29, 1929 marked the onset of the Great Depression, the agricultural crisis that preceded it had already undermined the success of many farmers, particularly black, and poor whites, and forced families to emigrate from the Potomac countryside to Washington. Farms grew in size as agricultural industrialization and mechanization began to take root in the rural landscapes of the United States in the 1920s. Unable to keep up or afford the growing costs of mechanization, the consolidation and increase of acreage per farm forced many farmers off their land. Westmoreland County in the Northern Neck of Virginia lost seventeen percent of its population between 1920 and 1930. The number of farms in the region also dropped considerably, decreasing by 7 percent from 14,737 in 1925 to 13,687 by 1935.<sup>138</sup>

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<sup>138</sup> For an explanation of the Great Depression and stock market crash, see David M. Kennedy, *Freedom from Fear: The American People in Depression and War, 1929-1945* (New York: Oxford University Press, 1999), 35-42. Historians like David Kennedy rightfully caution against drawing direct connections between events like the stock market crash and the decade-long Great Depression, but regardless of cause and effect, the economic turmoil of 1930 hit Washington and rural regions of the Potomac hard. For information on the agricultural depression, see Deborah Fitzgerald, *Every Farm a Factory: The Industrial Ideal in American Agriculture* (New Haven: Yale University Press, 2003), 184-190; Kennedy, *Freedom from Fear*, 16-18. For Westmoreland County population loss, see James Lawrence Basil Williams, *An Economic and Social Survey of Westmoreland County* (Charlottesville:

Ill prepared for the economic crisis, people hastened to Washington in search of jobs and opportunity. Between 1930 and 1940, the population of the city swelled from 486,869 to 663,091, a 36 percent increase in just ten years. The number of government employees increased 50 percent with New Deal programs and projects in Washington. These projects expanded the capital's infrastructure and public works. The capital attracted families and individuals from the rural, tidewater communities. "Mr. William Sanford down here," recalled waterman Millard 'Bunny B' Bryant about one of his old neighbors along the Currioman Bay, "he moved to town during the Depression and worked at a restaurant; he figured if he went to work washing dishes he could always get something to eat." Ironically, farms like Mr. Sanford's did not necessarily mean a steady meal, nor did employment opportunities in the few industries and businesses in the region—canneries, processors, and mills—as the economic crisis forced them to close or consolidate. In the tight-knit, farming communities of the Potomac the lack of improved roads and railroad transportation constricted commerce through continued reliance on the river. Rural emigration and farming mechanization reshaped the rural landscape as farms grew in size, production, and output. Fewer families had ties to the soil they once tilled.<sup>139</sup>

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University of Virginia, 1936), 29-31, 38. For the decline of farms, see U.S. Department of Commerce, *United States Census of Agriculture, 1925*, by the Bureau of the Census (Washington, DC: U.S. Government Printing Office, 1926), 89-116, 125-209; U.S. Department of Commerce, *United States Census of Agriculture, 1935*, by the Bureau of the Census (Washington, DC: U.S. Government Printing Office, 1936), 385-423, 395-450. The census numbers include St. Mary's, Charles, Prince George's Counties in Maryland, and Northumberland, Westmoreland, King George, and Stafford Counties in Virginia. These seven counties are immediately adjacent to the Potomac.

<sup>139</sup> For population increase, see U.S. Census Bureau, "Historical Census Statistics on Population Totals By Race," 1790 to by Campbell Gibson and Kay Jung under the

Naturally, as many farmers in the region worked as part-time watermen, locals looked to the Potomac River waters for relief. But they found none. As the national economy buckled, the local market for oysters paralleled its descent. From 1929 to 1932, while the price of all other types of food rose in the economic downturn, the prices for oysters dropped 47 percent. In turn, the oyster landings of the Chesapeake Bay fell by 15.8 percent. The Potomac landings alone dropped from approximately one million bushels in the late 1920s to twenty-five thousand bushels by 1931. An oyster bar survey, commissioned by Virginia and Maryland authorities in 1928, examined the river's oyster reefs and population stock. Finding evidence of severe depletion after the boom harvest of the late 1920s, state authorities took action. In 1931, both Virginia and Maryland banned the use of dredges on the Potomac for three years. This action further undermined locals' ability to supplement their income with the river's resources, as dredging offered the most efficient means of harvesting. But as the three-year moratorium came to a close, Maryland refused to permit dredging, while Virginia approved it.<sup>140</sup>

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Population Division. For more on rural migration and New Deal employment in Washington, see Albert E. Cowdrey, *A City for the Nation: The Army Engineers and the Building of Washington, D.C., 1790-1967* (Washington: U.S. Government Printing Office, 1978), 53-54. For quote and more on the Depression, see Millard Earl Bryant, "Bunny B," interview by author, Montross, Virginia, November 10, 2013; Williams, *An Economic and Social Survey*, 65.

<sup>140</sup> For prices of food and oyster industry decline, see Clyde L. Mackenzie, Jr., "Causes Underlying the Historical Decline in Eastern Oyster (*Crassostrea Virginica* Gmelin, 1791) Landings," *Journal of Shellfish Research* 26, no. 4 (2007): 930. For Potomac oyster numbers, see Dexter S. Haven, "The Shellfish Fisheries of the Potomac River," Paper contribution no. 697, Virginia Institute of Marine Science, 1976. For more on the moratorium, see David G. Frey, "Oyster Conservation Problems on the Potomac River," in *National Shellfisheries Association Annual Meetings* (Atlantic City: National Shellfisheries Association, 1944), 1-3.

The controversy over dredging on the Potomac coincided with a declining consumer demand for oysters. By 1934, Americans consumed 74 percent fewer oysters than they had in 1880. A typhoid scare in Chicago during November of 1924 threatened the demand and reputation of east coast oysters only a few years earlier when approximately 1,500 people in Chicago, New York, and Washington contracted typhoid fever. Although the oysters in question hailed from Raritan Bay, New York and New Jersey, the negative publicity and economic consequences wreaked havoc on the entire industry. Some called it the “greatest disaster which ever befell the industry.” Oyster interests claimed the scare cost anywhere from “fifty to eighty percent of the trade in almost every section of the country.” In Virginia, some of the packers closed in December following the news and many of the shippers did not turn a profit in 1924. Combined with economic and environmental factors, the oyster industry had quite the hangover. Mr. Frank W. Lawson of the Baltimore Oyster Packers & Dealers Association described the 1934 season as “Generally speaking...probably the most unsatisfactory one the industry has experienced.” Farther north, H. G. Sweet of New Haven, Connecticut agreed with Mr. Lawson’s assessment, “We do not think that the 1935-36 season could be worse than the period which is just concluded.” Amid the oyster depression of the mid-1930s, the fishing industry also suffered as the Chesapeake Bay market declined 24 percent in volume and 14 percent in value between 1932 and 1933.<sup>141</sup> “The Fishing Industry at this time is in a state of panic due to the scarcity of fish and the low prices prevailing,”

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<sup>141</sup> Eugene D. McCarthy, “Review of the Oyster Industry in 1924,” *The Fishing Gazette*, June 1925, 66-68; Jennings, “Some Changes in the Fish and Oyster Industry,” 119; Mackenzie, “Causes Underlying the Historical Decline in Eastern Oyster Landings,” 929-930; Andersen, *This Fine Piece of Water*, 97-98. For fishery decline, see “Chesapeake Bay Fisheries Declined,” *The Fishing Gazette*, March 1935, 31.

wrote James Williams as he surveyed the region's industries. 1934 and 1935 marked a particularly low point as meager catch-rates and prices threatened the fish processing and fertilizer plants of the lower tidewater Potomac—a cornerstone industry since the mid-nineteenth century. In the mid-Atlantic, two-decades of economic downturn, a ban on dredging, low consumer demand, and sagging markets merged to make the 1930s a decade many in the tidewater Potomac wished to forget.<sup>142</sup>

In addition to the struggles of the fishing industry, the river's condition caused concerns along the Washington waterfront. Growing waste and pollution from Washington forced beach closings due to bacterial concerns in 1932. The debate over the severity of sewage contamination and the safety of consuming the river's resources had never really left Potomac waters since the turn of the century, but water quality continued to deteriorate. A comparison between two surveys, one in 1913-14 and another in 1932, demonstrated the continued descent of water quality in the Potomac below Washington. The river water displayed low oxygen levels and a reduced functional ability to recycle nutrients and rebound from growing waste and pollution issues. There was not enough water in the river to dilute the growing amount of waste pouring from Washington's sewers. In response to Potomac

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<sup>142</sup> For quotes about the oyster industry, see "Straight from the Shoulder are These Comments of Oyster Producers and Dealers," *The Fishing Gazette*, May 1935, 19. For the quote about the fishing industry, see Williams, *An Economic and Social Survey*, 66. For more on the decline of oyster demand, see "Oystermen Meet: Advertising Fund Assured Production and Marketing Problems Considered at the Washington Meetings," *The Fishing Gazette*, June 1935, 10; and Howard W. Beach, "Oyster Consumption Declines," *The Fishing Gazette*, 1935 Annual Review, 119; Clyde L. MacKenzie, Jr., "History of Oystering in the United States and Canada, Featuring the Eight Greatest Oyster Estuaries," *Marine Fisheries Review* 58, no. 4 (1996): 17-25. For more on the moratorium and oystering on the Potomac, see *Watermen of Colonial Beach*, DVD-ROM written and directed by John Sweton (The Central Rappahannock Regional Library, 2011).

pollution, Congress passed the Fish and Wildlife Coordination Act in 1934. The Act encouraged the cooperation of agencies in planning and mitigating damages caused by shoreline development, underlining the visible consequences of deterioration caused by a growing city. Reminiscent of the Capital Park and Planning Commission less than ten years earlier, the Act also highlighted the connection between Washington's growth and water quality issues. By the late-1930s, as the region staggered out of the depression, farms foreclosed, the oyster and fishing industry struggled, and waste continued to pour into the river, the health quality and economic value of the region's soils and water came into question. The decade epitomized the struggle of maintaining a materially valuable river in the shadow of a growing metropolis.<sup>143</sup>

Despite the economic impediments to prosperity and deteriorating water quality, however, rural communities along the Maryland and Virginia shores persevered. To many in the tidewater the effects of Washington's growth were not quite yet evident. There were happy times and during the abundant months communities enjoyed family, friends, and food. Local newspaper editorials described the annual cycles of rural life. Articles included notes on hunting, fishing, farming, good health, family reunions, and cooking recipes. Contributors congratulated the community on good order, noting periods without "scraps or drunken brawls." The stories residents told about their families and friends were pragmatic and

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<sup>143</sup> For beach closings, see "A Clean-Up Chronology," *The Washington Post*, November 10, 1977. For water quality, see Wellington Donaldson, Linn H. Enslow, Samuel A. Greeley, W. S. Mahlie, Willem Rudolfs, Abel Wolman, and Earle B. Phelps, "Research in Sewage Chemistry, Sewage Treatment and Stream Pollution: A Critical Review of the Literature of 1933," *Sewage Works Journal* 6, no. 2 (March 1934): 198-202. For information on the Fish and Wildlife Coordination Act, see Siry, *Marshes of the Ocean Shore*, 136-137, 172-173.

utilitarian. Communities wrote of success, stating “never have our oystermen done so well,” with “plenty [of] oysters and a great demand at good prices.” In contrast to the early 1930s, the slight rebound of the late 1930s evoked a sense of success. Editorials reflected real life. No romantic notions of beauty, just happiness when times were good, bellies were full, and watermen made money. The river remained inseparable from all aspects of life. Community commentary showed the importance of the river’s water and soils in the daily life of the people that lived along its shores. Yet, the uncertainty of water quality and dependence on the river’s fickle resources loomed in the background.<sup>144</sup>

As science of water quality took off in the 1930s, those that measured the Potomac failed to understand the significance of their findings. “Oxygen-Poor Waters of the Chesapeake Bay,” read one headline in the popular journal *Science* in 1938. Lacking any hint of sensationalism, the title and article exuded a matter-of-factness that understated the importance of the findings. Curtis Newcombe and William Horne, scientists at the Chesapeake Biological Laboratory and University of Maryland, did not fully understand the implications of their findings at the time of publication. They described findings of extremely low oxygen levels in the Patuxent River, just North of the Potomac on the opposite side of St. Mary’s County, during summer months. These scientists noticed that the stratification of brackish waters created a surface layer of fresh, oxygen rich water, while a salty layer of oxygen poor water settled below. To the authors, the findings underlined the significant differences between Atlantic marine environments and that of brackish estuaries like the

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<sup>144</sup> “Westmoreland,” *Northern Neck News*, January 8, 1937. For more on the cycle of rural life, see *Watermen of Colonial Beach*, DVD.

Chesapeake Bay. More practical and timely applications of the findings seem not to have registered with either watermen or other government officials. Newcombe and Horne hinted at the potential that “further study of the various factors that control bathymetric oxygen variations should lead to a better understanding of many fundamental problems in oceanography and its diverse applications in the fishery industries,” but they never mentioned the fact that oysters, crabs, and fish cannot survive in oxygen-depleted waters. Little did these two scientists know, the low-oxygen events they described in *Science* would haunt the Chesapeake and Potomac in subsequent decades.<sup>145</sup>

As people lived their lives along the Potomac, farming, fishing, and oystering, and science struggled to understand the changing environment, the area’s transportation and development dynamic underwent a massive shift in the 1930s. Like the Potomac’s water quality, the steamboat industry spiraled out of control as the economic downturn hit with full force. The early 1930s also saw a series of storms and hurricanes that ripped up many of the small-community wharves along the river, as well as several severe winters that hindered navigation and commercial freight. Natural events coupled with the economic turbulence of the Depression to undercut the traditional monopoly steamboat companies held on the river. In addition, roads infiltrated the countryside by way of a growing system of primary and secondary roads, which continually drew commercial freight away from the river and into the beds of trucks. As early as 1923, the Virginia State Corporation Commission issued hundreds of certificates for freight carriers and over one thousand certificates for transportation carriers

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<sup>145</sup> Curtis L. Newcombe and William A. Horne, “Oxygen-Poor Waters of the Chesapeake Bay,” *Science* 88, no. 2273 (July 1938): 80-81.

like Greyhound, Peninsula Transit Corporation, Norfolk Southern Bus Corporation, and Virginia Stage Lines. By the 1930s the number of freight carriers had only grown. The 1933 Western Shore Steamboat Company stockholder report epitomized a gloomy outlook for the industry as a whole, describing failed bank loans, costly repairs, storms, a lack of freight, and growing competition. The situation was dire. By the mid-1930s, only 20 steamboats still plied the entire Chesapeake and tributaries like the Potomac.<sup>146</sup>

In 1936, Oliver Martin captured the waning days of steamboat traffic on the Potomac aboard the *Anne Arundel*. A reporter from Washington, Martin described the plush accommodations and hardy “southern meals” on the boat. Steamboats had long provided inexpensive access to resorts and commercial transport along the river. Martin lamented the passing of such a luxurious and affordable method of exploring the Potomac, asking the reader, “Would you believe that the total expense for this trip for one person, including stateroom, meals and the return railroad fare to Washington, is a little [more] than \$10?” The *Anne Arundel* was one of the few passenger boats that still operated, and in the words of Martin, “it, too, will probably soon pass away.” Martin’s fears went beyond the end of a ship line, to the passing of a “phase of American life which was picturesque and pleasant and which furnished inspiration to many writers of song and story.” Martin’s nostalgia portrayed

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<sup>146</sup> For information on 1930s storms, see “Growing Up on the Lower Machodac Creek at Tidwells,” interview with waterman Richard H. Daiger, September 2010, Westmoreland County Museum Archives, Montross, Virginia, 1-5. Freight and transport carriers, see Virginia Conservation Commission, Virginia Writers’ Project, *Virginia: A Guide to the Old Dominion* (US History Publishers, 1940), 95-97. For annual report, see “Report to Stockholders of the Western Shore Steamboat Co., Inc., Year Ending December 31, 1933” in “Steamboats Leave the Northern Neck,” in *Northern Neck of Virginia Historical Society* (Richmond: Dietz Press, Inc., 1991), 4752-4758. For the count of remaining steamboats, see Holly, *Tidewater by Steamboat*, 186.

the river as a place of beauty, romance, and inspiration for the traveler. The backbone of Potomac travel and commerce since the 1880s, the swift passing of the steamboat industry altered the recreation and transportation dynamics of the river.<sup>147</sup>

The golden age of resorts that had grown alongside, and as a result of steamboat traffic since the 1880s, disappeared with the boats. No longer hitched to a single access point, development moved away from the densely clustered resort towns that centered on steamboat traffic from a central wharf or pier. Tourism spread its tentacles throughout the countryside along newly developed roads. Communities adapted to the era by offering all the amenities and sporting opportunities urbanites desired to act out a country life of leisure and sport. Duck hunters frequented the lower Potomac during the winter, hiring locals as guides and capitalizing on their intimate knowledge of the river and its creatures. Counties, such as Westmoreland, Virginia, stocked the fields with birds like the Belgian partridge to attract sportsman from Virginia and Maryland. Even the artesian springs in the hills held value according to scholar James Williams as he completed his economic survey of the area. He noted that they attracted “a great deal of attention” and established “Westmoreland County into a health resort for those who come annually to take the ‘cure.’” Thus, even as economic turmoil of the early 1930s crippled the steamboat industry, the region remained a recreation destination for the “well-to-does” by evolving to maintain relevance for tourists.<sup>148</sup>

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<sup>147</sup> Oliver Martin, “On the Good Ship Anne Arundel: A Rappahannock Rhapsody,” *Northern Neck News*, August 21, 1936. For more information on the rise and fall of steamboats in tidewater Virginia and Maryland, see Holly, *Tidewater by Steamboat*.

<sup>148</sup> Wolfanger, “Abandoned Land in a Region of Land Abandonment,” 166-176. For quote, see Williams, *An Economic and Social Survey*, 26-28. For more on steamboat industry’s impact on tourism, see Wennersten, *The Oyster Wars of Chesapeake Bay*, 106; Beitzell, *Life*

While tidewater communities adapted to the decline of resorts, recreation evolved in a different way further up the river closer to Washington. Out of the prosperity of the 1920s and despite the economic turmoil of the 1930s, Washingtonians started to buy weekend homes on the outskirts of Washington for vacation and retirement. Slowly, vacationers and retirees crept southward, only twenty miles from Washington at first, but these recreational pioneers steadily extended the reach of second-homes as convenience and transportation allowed. In 1932, Washington realtor J. C. Scott told a *Washington Post* reporter, “I believe people are waking up to the fact that Potomac River properties are growing scarcer and scarcer and, therefore, more and more desirable.” By the late 1930s, the region had changed from a resort destination to a diversified landscape of recreation, health, and sportsman attractions. The rural countryside also brought a new tourism element as vacationers and retirees found the old farm homes and cottages along the river to their liking.<sup>149</sup>

The changing face of tourism, however, did not just result from people noticing the Potomac for the first time, as the river had been a landscape of resorts for decades. Instead, it stemmed from a growing network of roads and bridges. The region finally opened up to the automobile. Isolation had long been a concern of the rural communities on both sides of the river. In 1890, the completion of a railroad on the Maryland side had relieved some of the isolation, but the Northern Neck of Virginia along the southwest shore remained inaccessible.

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*on the Potomac River*, 122-123; Holly, *Tidewater by Steamboat*. Many watermen and locals in the tidewater hired themselves out as fishing and hunting guides. Bunny B’s father was known as one of the best hunters on the Potomac, hiring himself out to wealthy families from Richmond and Washington, see Millard Earl Bryant, “Bunny B,” interview by author, Montross, Virginia, November 10, 2013.

<sup>149</sup> “Land on Potomac River is Desired,” *The Washington Post*, July 3, 1932.

The peninsula had no railroad and only one main road to Fredericksburg well into the 1920s. Before 1930, people had little option but to rely on steamboats for transportation down the Potomac to the Virginia shoreline. After 1930, the road network became a viable alternative to the river as a highway. But even in the 1930s, options remained limited. Visitors could hop on one of the steamers and ferries that still operated, ride the Peninsula-Greyhound bus lines that ran the length of the Northern Neck peninsula, or try their luck on the unpaved back roads of region.<sup>150</sup>

Beyond the city, road building slowly progressed in the early twentieth century. In 1932, of approximately 36,000 miles of secondary roads in Virginia, there were only 2,000 paved miles, while another 8,900 miles had graded surfaces, and 25,000 miles remained completely unimproved. Road building became a state priority for the Virginia Highway Commission by 1940, due to the new belief that “there is no comfortable living in rural Virginia without a motor vehicle and a passable year-round road.” By 1950, Virginia had added only 3,285 more miles of secondary road since the Depression, but 34,998 of the miles were paved, soil, or gravel, leaving only 4,191 miles unimproved. Coupled with the growth of primary highways from 7,191 miles in 1930 to 9,404 miles in 1940, the rural Potomac became more convenient and accessible to incoming traffic and outgoing commerce. As early as 1948, improved roads allowed automobiles to reach higher speeds, pushing the residents of Lancaster, Virginia to petition for lower speed limits to protect against “constant fear and dread of sudden death.” Unthinkable only twenty years earlier, the hinterlands of Washington were now accessible to outsiders who had an automobile, time, and money to

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<sup>150</sup> Williams, *An Economic and Social Survey*, 69; Wolfanger, “Abandoned Land,” 174-176.

explore. The natural constraints of the river no longer inhibited the Maryland and Virginia shorelines.<sup>151</sup>

Without an ability to cross the Potomac, however, the place-shaping ability and accessibility of roads remained limited. The completion of concrete bridges broke down the natural, state, and county boundaries of the region. In 1938, workers finally broke ground on the construction of the U.S. 301 Bridge between Newburg, Maryland and Dahlgren, Virginia. When it opened in 1940, this new route unlocked the Northern Neck to residents of both Washington and Baltimore. The new bridge proved more popular than anticipated. Where planners predicted 136,000 vehicles-per-year, bridge traffic topped 171,600 automobiles in 1942 and jumped to 453,900 by 1946. The once isolated Northern Neck and southern Maryland were now only a short drive from Washington. Within ten years, the completion of the Robert Norris Bridge over the Rappahannock River would also connect the Northern Neck with the highway network of Norfolk, Williamsburg, and Richmond. The spreading web of roads, bridges, and highways provided rural residents easier access to urban goods and markets, while allowing urban residents access to the recreational qualities of rural Virginia in the comfort of their own cars.<sup>152</sup>

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<sup>151</sup> For miles of paved and unpaved roads, see Virginia Department of Transportation, *A History of Roads*, 33-39. For quote, see “Stop Speeding! Virginia Citizens Demand Publicly,” *The Washington Post*, July 21, 1948.

<sup>152</sup> Maryland Transportation Authority, “Harry W. Nice Memorial Bridge (US 301),” Maryland Transportation Authority, [http://www.mta.maryland.gov/Toll\\_Facilities/HWN.html](http://www.mta.maryland.gov/Toll_Facilities/HWN.html) (accessed March 31, 2014). For Robert Norris Bridge, see Lee Rice, *The Life of P: A Memoir of a Mother and a Nurse* (Richmond: Brandylane Publishers, Inc., 2007), 9-10. Virginia Department of Transportation, *A History of Roads*, 38.

The upheavals of time and space revealed concerns as cars erased the divide between urban and rural and the commodification of Potomac shoreline began. In 1937, Agnes Rothery published a book describing a new Virginia with roads that connected every part of the state, with a “succession of superb views and historical anecdotes.” The roads in the guide take the reader from the tidewater to the piedmont, Shenandoah Mountains and beyond. The two-fold purpose of Rothery’s book expressed the paradox of the moment: to highlight points of historical interest throughout the state, but also to capture the small-town, rural life that she feared would be lost with this more modern life. Like Oliver Martin’s earlier description of the steamboat *Anne Arundel*, Rothery’s fears reflected the degree of enormous transportation changes occurring across Virginia. Roads and their travelers threatened to encroach upon pastoral communities along the Potomac and alter a place of work and life. Moreover, with the passing of the river as a highway, the primary material value of the river transitioned from resources in the water—oysters, crabs, and fish—to a commodified landscape of potential real estate. Whether seen through the windows of a car or second home, the material value of the shoreline became inextricably linked to recreation as roads opened up the region to vacationers and retirees.<sup>153</sup>

The growth of Washington itself explains this encroachment into the rural landscapes of the Potomac. Development of bridges across the Potomac paved the way for urban and suburban development. The completion of the Memorial Bridge in 1932 opened Northern Virginia by offering an easy means of commuting over the river. Large-scale construction

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<sup>153</sup> Agnes Rothery, *New Roads in Old Virginia* (Boston: Houghton Mifflin Company, 1937), vii-viii, 179-187.

projects, like the Pentagon in 1942 and the National Airport in 1940, reshaped the river shoreline and secured Washington's place as an international hub and an ever-growing source of government employment. Home to some 225,000 to 250,000 federal employees by the late 1930s, the counties lining the Potomac grew exponentially. Former dairy farms and cropland became housing developments. The post-World War II construction boom also pushed development around the Washington area as service members returned home and looked to settle down with their families. By the 1950s, with the completion of new bridges and transportation projects, house values had increased upwards of ten times their 1916 values. A growing wealthy workforce pushed into the Potomac countryside, with roads delivering easier access and literally paving the way.<sup>154</sup>

Suburban development intensified the environmental consequences for the river, as new pavement, shingles, and lawns increased the rate of runoff during heavy rainfall. Following centuries of changing land use, suburban development pushed environmental consequences to a head around mid-century. Recent environmental reconstructions show that the eutrophication of the Chesapeake increased the frequency and intensity of low oxygen events between 1930 and 1950. Eutrophication is the process by which excess nitrogen and phosphorus induce blooms of algae. As silt clouded the water and less light reached the depths of the river, bottom-dwelling organisms like grasses and plants struggled while certain

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<sup>154</sup> For Washington and employment growth, see Cowdrey, *A City for the Nation*, 40-62. For residential value and development, see Paul Herron, "Virginia's 'Garden Spot' Seers Proved Honest by Development," *The Washington Post*, April 12, 1958; "Lovely Homes Dot Course of Potomac," *The Washington Post*, September 8, 1940; Robert Baker, "Many Projects Planned: Virginia Roads Key to Growth," *The Washington Post*, April 12, 1958. For more on the value and development of land, see Siry, *Marshes of the Ocean Shore*, 112-113.

types of surface-organisms, like algae and diatoms, bloomed in the nutrient-rich river water. In extreme forms, eutrophic environments lead to depleted or low-oxygen levels known as anoxic or hypoxic events. As the algae blooms die, the dead organisms fall to the river floor and decay. During times of river stratification, when there is a distinct top layer of freshwater and bottom layer of saltwater, the process of decay consumes oxygen and depletes the bottom layer of saltwater. Low oxygen levels can harm or kill crabs, oysters, fish, and even sea grass depending on duration and scope.<sup>155</sup> In these two decades, the area of extremely low dissolved oxygen in the Chesapeake and at the mouth of the Potomac continued to grow in size and severity.<sup>156</sup> The Chesapeake Bay demonstrated incredible resiliency and recycling rates of nutrients; still, centuries of sedimentation, waste and agricultural runoff, as well as overharvesting, altered the ecosystem and species composition of the Potomac. The nutrients flowing into the Potomac approximated four to eight times the nitrogen and thirteen to twenty-four times the phosphorus of pre-colonial levels.<sup>157</sup> To make matters worse, fertilizer

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<sup>155</sup> For an explanation of eutrophication, see Brush, "Forests Before and After," 50-58.

<sup>156</sup> Andrew R. Zimmerman and Elizabeth A. Canuel, "A Geochemical Record of Eutrophication and Anoxia in Chesapeake Bay Sediments: Anthropogenic Influence on Organic Matter Composition," *Marine Chemistry* 69 (2000): 117-137; Charles B. Officer, Robert B. Biggs, Jay L. Taft, L. Eugene Cronin, Mary A. Tyler, and Walter R. Boynton, "Chesapeake Bay Anoxia: Origin, Development, and Significance," *Science* 223, no. 4631 (January 1984): 22-27.

<sup>157</sup> For pre-colonial figures, see W.R. Boynton, J. H. Garber, R. Summers, and W. M. Kemp, "Inputs, Transformations, and Transport of Nitrogen and Phosphorus in Chesapeake Bay and Selected Tributaries," *Estuaries* 18, no.1 (March 1995): 311-314. For more on nutrient recycling and the on nitrogen and phosphorus input, see Jeffrey C. Cornwell, Daniel J. Conley, Michael Owens, and J. Court Stevenson, "A Sediment Chronology of the Eutrophication of Chesapeake Bay," *Estuaries* 19, no. 2 (June 1996): 488-499; Alexander W. Karlson, Thomas M. Cronin, Scott E. Ishman, Debra A. Willard, Randy Kerhin, Charles W. Holmes, and Marci Marot, "Historical Trends in Chesapeake Bay Dissolved Oxygen Based on Benthic Foraminifera from Sediment Cores," *Estuaries* 23, no. 4 (August 2000): 488-508.

use between 1930 and 1953 in Virginia jumped from 388,937 tons to 765,619 tons, adding to the growing ecological crisis.<sup>158</sup> On top of increased nutrient input, however, the suburbanization of the Washington region exacerbated the problems of impervious surface runoff. With each rainstorm, fertilizer from farms washed into the river, while sediment filled the river from local residential developments. Change deepened, yet, the rural idyllic Potomac that travelers saw through their car windows or vacationers sought for recreation, often looked unchanged as visitors passed through the landscape.<sup>159</sup>

Indeed, in the midst of such dramatic transformations, the symbols that had characterized the river since the 1880s endured, as authors like Homer Stanford found virtue in its depths and shores. His 1940 portrayal froze the river in time as legend, the birthplace of a country, and inspiration for national expansion. Stanford saw the physical landscape functioning as a cornerstone for future potential and past glory. The Potomac, like America, was “in the process of going forward—and this historic river was making its contribution of inestimable value towards the transportation of those primitive days: westward to the setting Sun.” The river birthed an honest, pioneer spirit that manifested itself in the earliest “simple God-fearing workers” of the Potomac, those who were willing to meet the challenge of

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<sup>158</sup> U.S. Department of Commerce, *Farms, Farm Characteristics, and Farm Products: Virginia, 1953* prepared by the Bureau of the Census (Washington, DC: U.S. Government Printing Office, 1954), 13.

<sup>159</sup> For more on the ecological change and the two decades after 1940, see Sherrie R. Cooper and Grace S. Brush, “Long-Term History of Chesapeake Bay Anoxia,” *Science* 254, no. 5034 (November 1991): 992-996; Michael X. Kirby and Henry M. Miller, “Response of a benthic suspension feeder (*Crassostrea virginica* Gmelin) to three centuries of anthropogenic eutrophication in Chesapeake Bay,” *Estuarine, Coastal and Shelf Science* 62 (2005): 679-689. For the rise and consequences of impervious surfaces, see Adam Rome, *The Bulldozer in the Countryside: Suburban Sprawl and the Rise of American Environmentalism* (New York: Cambridge University Press, 2001), 190-197.

moving westward. Similar to the romantic prose of authors in the late nineteenth and early twentieth centuries, Stanford's "picturesque life story of this historic, romantic Potomac" captured the river as inspirational and fundamental element of the nation's spirit.

Reminiscent of the Progressive tendency to see Americans as a product of their environment, these authors elevated the Potomac past recreational, physical, or material value. But by looking west, Stanford turned his back on the actual Potomac whose eastern origins were ever worsening. He overlooked the signs of trouble, deterioration, and change in the murky waters.<sup>160</sup>

By mid-century, however, language describing the Potomac became more measured. As pollution worsened, fisheries declined, and open spaces disappeared, imagined and real rivers diverged. The cloudy, sewage-filled waterfront no longer symbolized the nation's once pure virtue, and undermined the river's role in national rhetoric. In 1949, writer Frederick Gutheim captured a growing tension within a dynamic and contested Potomac environment absent from earlier works. The shift of the Potomac from an environment imbued with national significance to a contested and evolving space of historical significance signaled a turning of the tide in the value of the landscape. Gutheim saw the Potomac as a "plastic river...ever being shaped anew by a restless nature and a dynamic society." It was so many things to so many Americans, a "fishery, granary, harbor, route, homesite, plantation, hunting ground, mine, power source, factory, capital, swamp, pleasure ground, and more." The river was a resource to be harvested, a place to vacation, and a symbolic landscape. The Potomac

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<sup>160</sup> Homer R. Stanford, *The Historic Potomac—Beginning with 1740* (Princeton: Princeton University Press, 1940), 2, 40-41.

both revealed and reflected every interest of American consumer society. Far from infallible or invincible, the river testified to the impact of all past choices and projects.<sup>161</sup>

Gutheim's Potomac was not the Edenic vision of so many authors before him, but a tangible river with real problems. Water quality suffered and Potomac fisheries continued to show ominous signs of decline. The "oystermen's wars" entangled Virginia and Maryland, with "the machine guns on Maryland conservation cutters chattering at the boats of Virginia poachers." Gutheim captured a complex world of competing interests and visions for the river, but he also saw promise. The past had created these problems through centuries of disconnected and ill-planned projects. He called for a reconciliation of all interests, to "consider anew each part of the river," and for "all the rich potentialities of the Potomac to be realized." He also spoke to the changing urban and rural landscape, believing the river's problems stemmed from a failure "to relate city and open-country problems in one single regional plan." To Gutheim, the Potomac provided an opportunity to learn to live with a growing national problem—urban sprawl. The suburbanization of the landscape was part of the problem that undercut the ideological importance of the river. In the late 1940s, Gutheim's interpretation illustrated a marked departure from earlier narratives; it became a dynamic environment coping with national growth, not a passive testament to national glory or virtue. The growing problems could no longer be ignored, the health of the river depended

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<sup>161</sup> Frederick Gutheim, *The Potomac* (New York: Rinehart & Company, Inc., 1949), 380-393.

on Washington acknowledging it as a place of competing interests. But often, interests existed tenuously within the same space.<sup>162</sup>

Towns like Colonial Beach encapsulated the dichotomy of recreation and material interests on the river. As vacation and retirement homes marched southward along the shore with the highways and secondary roads, Colonial Beach evolved to position itself as a place for second homeowners and retirees (see figure 16). The town moved away from plush resorts to cottages and beach houses. But even as second-homeowners moved in, watermen tied up at the docks and sold oysters to the local shucking and canning houses. The remnant of a densely settled resort town, the area served as a manifestation of the various values of the river, as both a place of recreation and material significance. Oyster canneries, marinas, weekenders and retirees mixed with watermen in the streets and on the water. Both the past and the future of the river could be seen in the town's layout, residents, and hopeful development.<sup>163</sup>

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<sup>162</sup> Ibid., 380-395. For more on planning thoughts of Frederick Gutheim, see "Author Asks Full-Scale Development of Potomac," *The Washington Post*, January 13, 1950.

<sup>163</sup> John Kobler, "Las Vegas on the Potomac," *The Saturday Evening Post*, September 7, 1957; for more on the canneries and shucking houses of Colonia Beach, see *Watermen of Colonial Beach*, DVD.



Figure 16. Colonial Beach, Virginia advertising retirement and vacation homes in the 1950s. Image courtesy of the Colonial Beach Historical Society and Museum.

As some communities transitioned to a space of recreation, the oyster and fishing industry grappled with an evolving environment and fluctuating harvests. In the 1950s, newspapers like the *Northern Neck News* ran articles about fishing stocks and environmental problems in the Potomac. Their authors searched for answers in the failure of important fisheries, looking at everything from the effects of weather on the seafood industry to the migration problems of species due to warming Atlantic Coastal water. Oystermen in particular faced three main issues: overharvesting, changing water quality, and natural parasites. Residents continued to look to the state to solve the tense oyster harvesting

situation, hoping that a joint Maryland-Virginia commission would “license and limit oyster taking devices, reshell and reseed depleted areas, collect certain taxes, and enforce penalties for violation.” While some interests searched for a compromise in oyster harvesting regulations, Maryland scientists attempted to address the high mortality of oysters in the changing Potomac waters. By understanding the delicate requirements of spawning oysters and the effects of water quality on mortality, oystermen held out hope that science could reverse the declining population. On top of the exploitation and water quality issues, natural predators like oyster drills plagued the industry. Newspapers noted that many oystermen lost work due to the voracious parasites. But oysters were not the only concern. Fish stocks declined as well. River communities also saw potential salvation in the work and scientific observations of agencies like the Virginia Fisheries Laboratory that researched the spawning habits and nursery grounds of fish.<sup>164</sup>

Masking the overall story of decline, however, were stories of some creeks and bays that proved resilient. The 1950s saw “prosperous times for a few people on the [Machodac] creek,” recalled waterman Richard Daiger, “oysters were making a comeback.” It seemed like the same river that his father had grown up on, where the “philosophy of the watermen

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<sup>164</sup> For concerns about weather and climate, see “Underwater ‘Weather’ May Affect Seafood Supply,” *Northern Neck News*, December 5, 1952. Calls for a bi-state commission, see “Va. Approves Oyster Act,” *Northern Neck News*, February 15, 1952. On trying to understand mortality, see “Oyster Mortality High in Late Summer,” *Northern Neck News*, May 9, 1952. For parasites and costs, see “Scientists Wage War Against Oyster Drills,” *Northern Neck News*, August 22, 1952. For concern about fisheries, see “Virginia Rivers may be Important Nursery Grounds for Croakers,” *Northern Neck News*, May 2, 1952.

was ‘if you could sell it or eat it, it was alright to catch it.’”<sup>165</sup> Waterman ‘Bunny B’ Bryant remembered a similar experience just up the river, “At one time there were so many crabs, we fished twice a day, once in the morning and once in the evening.” Many of the watermen working the Potomac in the 1950s used very little technology, relying instead on local knowledge and skill to maintain their operations. “Expert watermen” as Bryant remembered his father, knew the river like the back of their hands, with a “working knowledge of where and when to pick a place to set a gill net for rockfish or perch, the right time of the season, year, and a good place to set your crab pots to catch crab.” Watermen valued experience more than technology. “Years and years of experience,” Bryant declared, no technology “will ever take the place of it.”<sup>166</sup> As one Virginia Resource Commission official recalled, oystermen could tell the difference between “empty shells, full shells, or beer cans” with nothing but their tongs. Local knowledge about the landscape meant making a living.<sup>167</sup>

Such working knowledge and experience made watermen brutally efficient and effective at harvesting the last of the river’s declining resources. For a decade after the early 1940s, the Potomac had enjoyed an oyster boom with the discovery of healthy beds in locations like Swann Point Bar just across the river from Colonial Beach. This discovery encouraged the continuation of a century’s old “oyster war” between Virginia and Maryland poachers with the Maryland Oyster Navy. One newspaper described the impasse stating,

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<sup>165</sup> “Growing Up on the Lower Machodac Creek at Tidwells,” interview with waterman Richard H. Daiger, September 2010, Westmoreland County Museum Archives, Montross, Virginia, 1-5.

<sup>166</sup> Millard Earl Bryant, “Bunny B,” interview by author, Montross, Virginia, November 10, 2013.

<sup>167</sup> For quote, see *Watermen of Colonial Beach*, DVD.

“Maryland prohibits dredging in the oyster beds, allowing only tongs, and Virginia permits regulated dredging subject to a Maryland approval that has not been given.”<sup>168</sup> Legally, the two states disagreed on whether dredging was permissible and Virginia authorities refused to enforce Maryland’s dredging laws. The disagreement created a strange situation where Virginia authorities looked the other way, while the Maryland Oyster Navy prepared for war against poachers. Competition between Virginia oystermen and Maryland oystermen, on top of the competition between Virginia oystermen and Maryland policeman, shaped a dangerous environment that often escalated into shootouts on the river.<sup>169</sup>

The situation deteriorated in the late 1940s. Dangerous confrontations with Maryland police destroyed Virginia’s oyster fleet in places like Colonial Beach, where it dwindled from one hundred boats to just seven in 1948. Gunfights and declining oyster stocks discouraged many Virginia watermen from continuing their trade, pushing them to look for work elsewhere. David Frey, an official with the Fish and Wildlife Service, described the consequences of the Potomac situation. “The result is there has been very little management of the Potomac River oyster resource,” Frey continued, “The fishery has been essentially an exploitation of a natural resource with no serious attempt to increase the supply by means of recognized oyster management practices.” According to his 1942 and 1943 resurvey of the Potomac, intense pressure meant oyster bars were no longer able to “regain their former productivity.” Frey called for a bi-state commission of both Maryland and Virginia to finally

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<sup>168</sup> For quote, see “Oyster Boats Flee Center of Potomac 2-State ‘War,’” *The Washington Post*, September 18, 1948.

<sup>169</sup> Frey, “Oyster Conservation Problems on the Potomac River,” 1-3. For information on the Oyster Wars and the Swann Point Bar, see Wennersten, *The Oyster Wars*, 106-127.

regulate the dwindling oyster resources. His advice went unheeded. The old eighteenth-century question of who, and how, the Potomac should be managed remained unsettled through the 1950s as confrontations escalated.<sup>170</sup>

Resistance to management laws ranged from developing a “keen eye” for police boats to actively flaunting illegally harvested resources in a police chase. Waterman Richard Daiger remembered law enforcement as “scarce and very slow” in the 1950s. If watermen spotted police, they would just quit fishing and speed off and sell their catch at the nearest dock. But conflict increased near the town of Colonial Beach, where some watermen decided to dredge at night in Maryland waters. Aggravating matters, the decommissioned and surplus engines of World War II flooded the Potomac region with cheap engines and parts. Instead of bowing to Maryland police pressure, Virginia dredgers built bigger and faster boats capable of outrunning any boat on the water. Pete Green and George Townsend bought a boat in 1952 and dropped a 450-horsepower airplane engine into the hull, while another oysterman, Landon Curley, purchased a German patrol boat and installed a 630-horsepower U.S. Navy engine.<sup>171</sup> Those willing to run the gauntlet used whatever surplus parts they could to build what amounted to a dredging hotrod. At night, poachers dredged around a lantern in the river; if they caught wind of police approaching they would cut the dredge line and speed off. In turn, Maryland police boats often fired freely in pursuit of the poachers in an attempt to

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<sup>170</sup> For quote, see Frey, “Oyster Conservation Problems on the Potomac River,” 1-3. For more information on oyster management or the Oyster Wars on the Potomac, see “Oyster Boats Flee;” Wennersten, *The Oyster Wars*, 106-127; Keiner, *The Oyster Question*, 170-175; *Watermen of Colonial Beach*, DVD.

<sup>171</sup> Pete Green, interview and story by his wife Gladys Green, Colonial Beach, Virginia, August 2010, Colonial Beach Historical Society and Museum, 1-6.

knock out the engines and confiscate the boat. Depending on whom you ask, the police were overzealous with use of force, or Virginia poachers were asking for it.<sup>172</sup>

The oyster wars reached a climax with the death of Berkley Muse in 1959. A popular waterman out of Colonial Beach and father of three, Muse was one of three men on an oyster boat in the Potomac that was illegally dredging—or legally tonging depending on which state tells the story—when he was fatally shot during a pursuit by officers on a Maryland Commission police boat.<sup>173</sup> “Berkley Muse died on the culling board of Harvey King’s grey 20-foot boat with its two 70-horsepower engines,” read one story, emphasizing, “Maryland inspectors had fired 27 shots from their revolvers.” Bullets slammed into the side of a few buildings in Colonial Beach as the police pursued the boat. To the town’s mayor, the death was a “clear case of murder.”<sup>174</sup> The interstate conflict over fishing rights on the Potomac represented more than a courtroom argument; the disagreement held real implications for the communities and watermen of the Potomac. Another author wrote, “We’re for protecting oyster beds from dredgers. Dredging ruins the bed. But dredging is a misdemeanor. Does it merit death? Do men have to kill each other to protect an oyster...?”<sup>175</sup> The death of Berkeley Muse ended the oyster wars, but mainly because there were too few oysters left to

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<sup>172</sup> For “keen eye” quote and illegal dredging, see “Growing Up on the Lower Machodac Creek at Tidwells,” interview with waterman Richard H. Daiger, September 2010, Westmoreland County Museum Archives, Montross, Virginia, 1-5. For more on the conflict, see “Oyster Boats Flee.” For more on the outfitting of boats and tension between watermen and police, see *Watermen of Colonial Beach*, DVD.

<sup>173</sup> “Berkeley Muse Fatally Shot By Maryland Police,” *The Potomac Interest*, April 16, 1959.

<sup>174</sup> Frank Delano, “Washington Should Have Known Better—Giving Away the River Could Only Cause Trouble,” *The Free-Lance Star*, March 20, 1971.

<sup>175</sup> “Killing In The Name of The Law,” *The Washington Daily News* in *The Potomac Interest*, April 16, 1959.

make the risks worth it. “As word spread about Berkley Muse,” many watermen of Virginia decided, “they’d had enough of dredging.”<sup>176</sup>

In the wake of such violence and after centuries of disagreements, Congress finally approved a bi-state Potomac River Fisheries Commission on October 10, 1962. By splitting power between Virginia and Maryland, the commission addressed a lack of resource management and officially brought the oyster wars to a close. The act charged the commission with managing the Potomac resources, research programs, fishing licenses, regulation, and enforcement. Unfortunately, the creation of the commission was too little, too late for many watermen. The lack of management and maintenance on the river’s resources and health came to a head in the early 1960s, when a series of fish kills hit the Potomac River. In 1963, thousands of white perch washed up along the Potomac causing concern and discomfort as the rotting carcasses piled up on the shoreline. Colonial Beach raked up and hauled away the dead fish in truckloads to prevent the smell from deterring vacationers. The kill appeared to have resulted from a hypoxic event, as fish could not escape the oxygen-deprived Potomac water.<sup>177</sup>

A complicated mix of urban growth, pollution, conflict, overharvesting, and the privatization of shoreline merged to create a formidable obstacle to the Potomac’s traditional, material role by the 1960s. But the decline of fish and fishermen was not always obvious or

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<sup>176</sup> Delano, “Washington Should Have Known Better,” 10-A.

<sup>177</sup> United States Department of the Interior, *Report to the Bureau of Commercial Fisheries for the Calendar Year, 1962* (Washington, DC: United States Government Printing Office, 1964), 8; Eugene L. Meyer, “The Day They Shot Berkeley Muse,” *Chesapeake Bay Magazine*, January 1999, 50-51; “Potomac River Fish Kill Prompts State Session,” *The Free Lance-Star*, July 12, 1963; Beitzell, *Life on the Potomac*, 100-101.

dramatic. There was no instantaneous drop like the national market crash of 1929, but a cyclic trend of boom and bust years, with an overall negative trend. In fact, in the face of such problems, the 1960s still included a number of successful seasons for fisheries on the river. The decay of the Potomac fisheries more characterized a death throe—unstable and erratic—or a heartbeat as it nears the end—slow and rhythmic (see figure 17 and 18). There were good years that cushioned and cloaked the decline and growing problems with species like oysters, shad, and rockfish. To further complicate matters, the natural fluctuations of both species and environment clouded the man-made causes of environmental and species decline. The fishing industry kept on throughout the 1960s, but many watermen had less incentive to follow the water as competition increased, environmental concerns grew, and potential for success diminished. It was enough to question the future.<sup>178</sup>

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<sup>178</sup> Philip W. Jones et al., *Chesapeake Bay Fisheries: Status, Trends, Priorities & Data Needs* (Maryland Department of Natural Resources and Virginia Marine Resources Commission, 1988); Associated Press, “Record Haul of Rockfish is Being Made in Potomac,” *The Free Lance-Star*, February 20, 1948. Overharvesting is difficult to quantify on the Potomac, as statistics were not reliably kept by any agency until the Potomac River Resources Commission started in 1964.

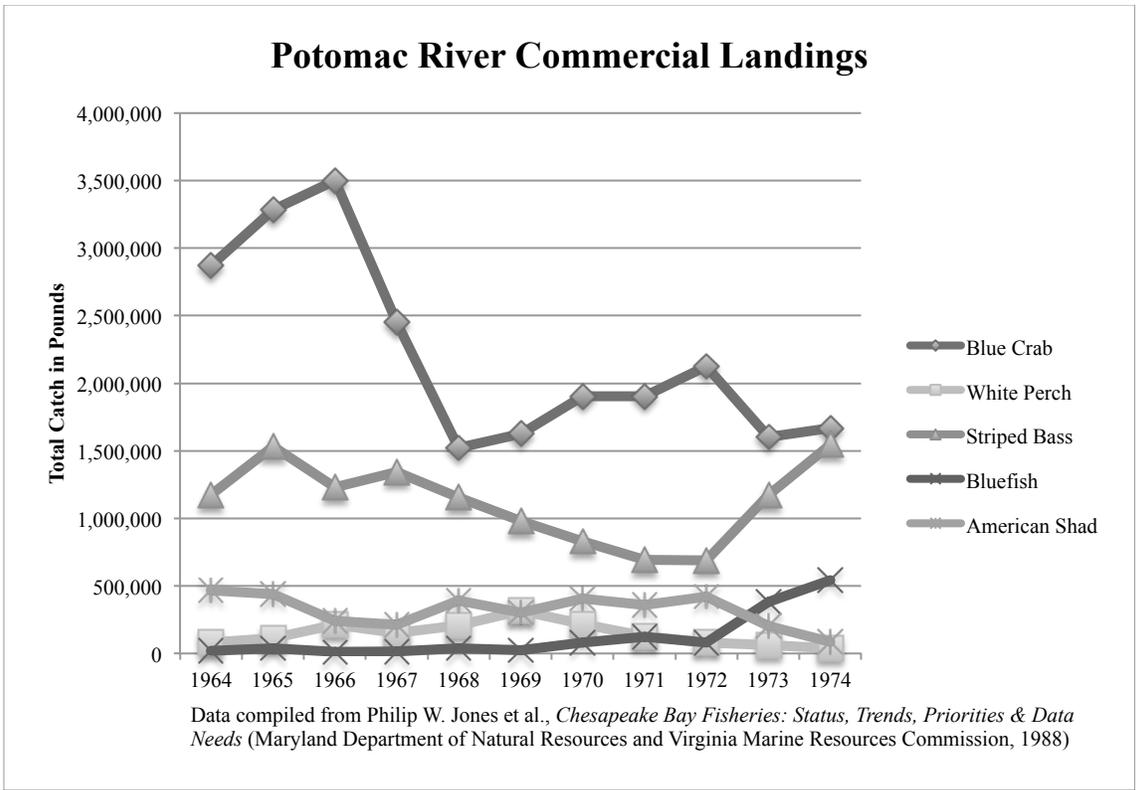


Figure 17. Potomac fisheries were a turbulent venture for many watermen.

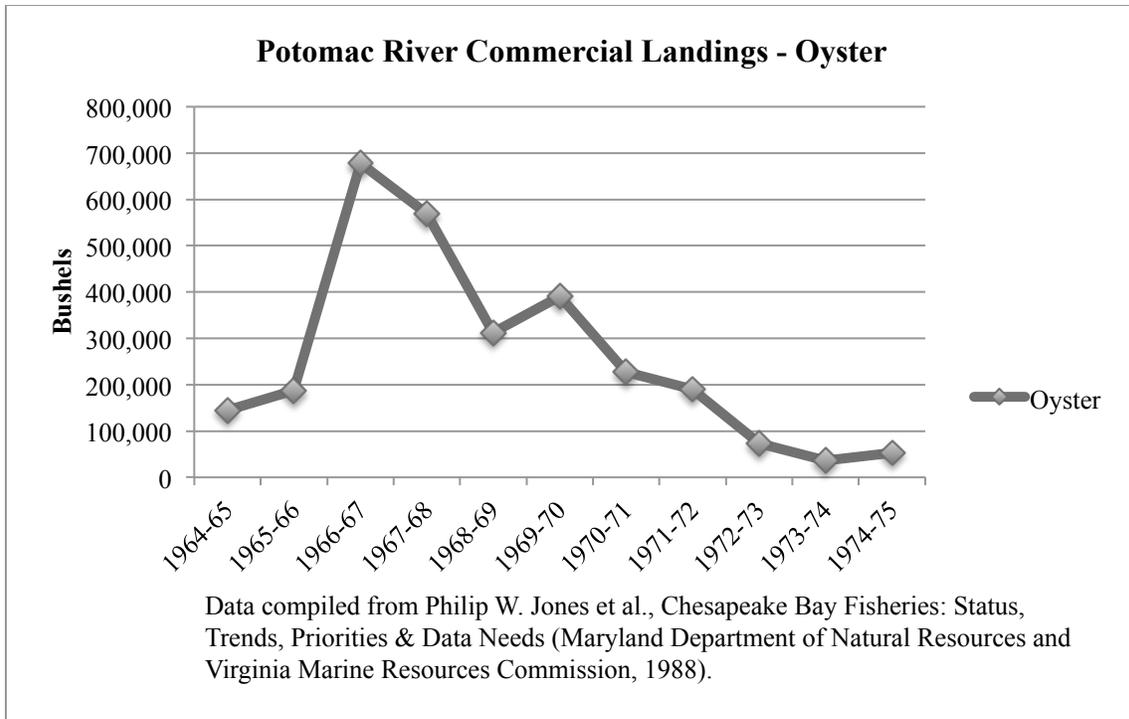


Figure 18. The oyster industry epitomized the wild ups and downs of a waterman’s livelihood.

Recreation also posed a new challenge to watermen who faced increased competition from recreational fishermen. As the Potomac shoreline transformed into second-homes and getaways, weekenders and recreational anglers sought the sports amenities of the river including fishing, hunting, and boating. By 1963, a tidewater fisheries report on striped bass highlighted the growing tension between commercial and recreational fishing by establishing four categories of competing anglers: “highly skilled professional netters, experienced and highly specialized anglers, persistent but inexperienced farmers using shortnets, and amateur but eager anglers who also catch fish.” The growing segment of recreational fishermen forced the river to host a rising number of competitors for a scarce supply. Between 1959 and

1961, Potomac anglers averaged almost twice the “national average of all types of inland fishing,” and the recreational catch almost approached the commercial catch during several months. Recreational anglers blamed watermen for overharvesting, while watermen pointed to recreational anglers, all as environmental disaster loomed. A fourth-generation Potomac waterman, Edwin Beitzell described the irony of the situation, “If [the Potomac’s health] is not solved, the fracas between sports and commercial fishermen can be forgotten—there will be no fish to fight over.”<sup>179</sup>

As locals became increasingly disconnected from the Potomac waters, so, too, were they slowly removed from the shoreline. In the four decades after 1925, the total number of farms in the counties adjacent to the Potomac dropped from 14,737 to 3,939—a staggering 73 percent decline. By 1965, there were fewer, larger farms and less overall farm acreage. The average size of each surviving farm increased from 89 to 169 acres and moved inland, while the area of farmland along the river fell from approximately 68 percent to 32 percent by the late 1960s.<sup>180</sup> Rooted in the agricultural depression of the 1920s, mechanization and

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<sup>179</sup> Edgar H. Hollis and Romeo J. Mansueti, *Striped Bass in Maryland Tidewater* (Solomons, MD: Maryland Department of Tidewater Fisheries and Natural Resources Institute of the University of Maryland, 1963), 1-3, 7-9. For the quote and more on the declining fisheries and fishermen, particularly shad and herring, see Beitzell, *Life on the Potomac*, 101.

<sup>180</sup> U.S. Department of Commerce, *United States Census of Agriculture, 1925*, by the Bureau of the Census (Washington, DC: U.S. Government Printing Office, 1926), 89-116, 125-209; U.S. Department of Commerce, *United States Census of Agriculture, Maryland, 1969*, by the Bureau of the Census (Washington, DC: U.S. Government Printing Office, 1972), 145-152, 65-72, 129-138; U.S. Department of Commerce, *United States Census of Agriculture, Virginia, 1969*, by the Bureau of the Census (Washington, DC: U.S. Government Printing Office, 1972), 385-395, 513-520, 689-696, 737-744. Census numbers include St. Mary’s, Charles, Prince George’s Counties in Maryland, and Northumberland, Westmoreland, King George, and Stafford Counties in Virginia. These seven counties are immediately adjacent to the Potomac.

industrialization continued through the twentieth century leading to foreclosure on small farms and their consolidation into larger farms. Annual rhythms of rural life disappeared as fewer farms dotted the landscape and vacationers and retirees eagerly purchased waterfront property and old farm homes, or built new ones. As demand and prices for waterfront property escalated, weekenders pushed farmers, watermen, and locals from the river's edge. Waterman Edwin Beitzell watched the shoreline transform. "With the five-day work week and increased vacation intervals being given by both government and business establishments," he commented in 1968, "there is more demand by city-dwellers for weekend homes, motels, parks, and amusement places." Worse, in "some of the inlets of the Potomac practically all of the water front has been taken up and land prices have sky-rocketed in a few years." Gradually, fewer local families and individuals had their livelihoods invested in the landscape and shoreline of the river.<sup>181</sup>

As the landscape disconnected from work, the 1960s Potomac also demonstrated a stark whitening of physical space. In 1850, four of the nine counties adjacent to the Potomac were predominately black, while the remaining counties included a significant percentage of black slaves and freemen.<sup>182</sup> A century later, African-American farming presence along the river disappeared. A combination of discriminatory federal agriculture policies, competition,

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<sup>181</sup> For quote, see Beitzell, *Life on the Potomac River*, 136-137. For more on the encroachment of recreation, see Millard Earl Bryant, "Bunny B," interview by author, Montross, Virginia, November 10, 2013.

<sup>182</sup> Richard Edwards, *Statistical Gazetteer of the State of Virginia, Embracing Important Topographical and Historical Information from Recent and Original Sources* (Richmond: Published for the Proprietor, 1855), 231, 283, 329-331, 349-351, 385, 407-409; Jos. C. G. Kennedy, *History and Statistics of the State of Maryland, According to the Returns of the Seventh Census of the United States, 1850* (Washington: Gideon & Co., 1852), 12-14, 23-25, 37-38.

and rising land prices drove black farmers from the shoreline. As Pete Daniel's work *Dispossession: Discrimination Against African American Famers in the Age of Civil Rights* demonstrates, USDA discrimination represented a backlash to achievements during the Civil Rights Movement.<sup>183</sup> The Potomac region proved no different. Of the 4,041 black farms that worked Potomac soil in 1925, only 332 remained by the late 1960s. In forty-four years, African American farms had decreased by 92 percent. Like white farmers in the 1960s, black farmers felt pressure from retirees and weekenders, as real estate became a valuable commodity. At the same time, they were not proportionately represented among new arrivals. The shoreline held more value as a place for the white middle-class to access the beauty and recreational qualities of the Potomac.<sup>184</sup>

Stewart Udall, the Secretary of the Interior under President John Kennedy, encapsulated the growing disconnect between American landscapes and physical work in *The Quiet Crisis*. "Our sense of stewardship," Udall surmised, "is uncertain partly because too many of us lack roots in the soil and the respect for resources that goes with such roots." The Potomac increasingly became a space where middle-class Americans reveled in, and acted out, a rural life but only for the weekend. Udall held a romantic view of the past. "A century ago we were land-conscious, outdoor people: the American face was weather-beaten, our skills were muscular, and each family drew sustenance directly from the land," he argued,

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<sup>183</sup> Pete Daniel, *Dispossession: Discrimination Against African American Famers in the Age of Civil Rights* (Chapel Hill: The University of North Carolina Press, 2013).

<sup>184</sup> U.S. Department of Commerce, *United States Census of Agriculture, 1925*, 89-116, 125-209; U.S. Department of Commerce, *United States Census of Agriculture, Maryland, 1969*, 145-152, 65-72, 129-138; U.S. Department of Commerce, *United States Census of Agriculture, Virginia, 1969*, 385-395, 513-520, 689-696, 737-744.

“but we are falling prey to the weaknesses of an indoor nation and the flabbiness of a sedentary society.” Reminiscent of Theodore Roosevelt’s calls for outdoor activities and the virtues of toil, Udall condensed the challenges of the post-World War II urban and suburban world, where Americans worked in the city and explored the rural countryside in their free time. The post-World War II accumulation of wealth and boom in housing turned the rural countryside into a prospective vacation real estate market, as American prosperity at mid-century provided new possibilities of homeownership and, for some, second-homeownership. Between 1940 and 1960, the ownership of vacation homes in Virginia and Maryland rose from 16,312 to 48,766, reshaping ownership and access of the shoreline (see figure 19).<sup>185</sup>

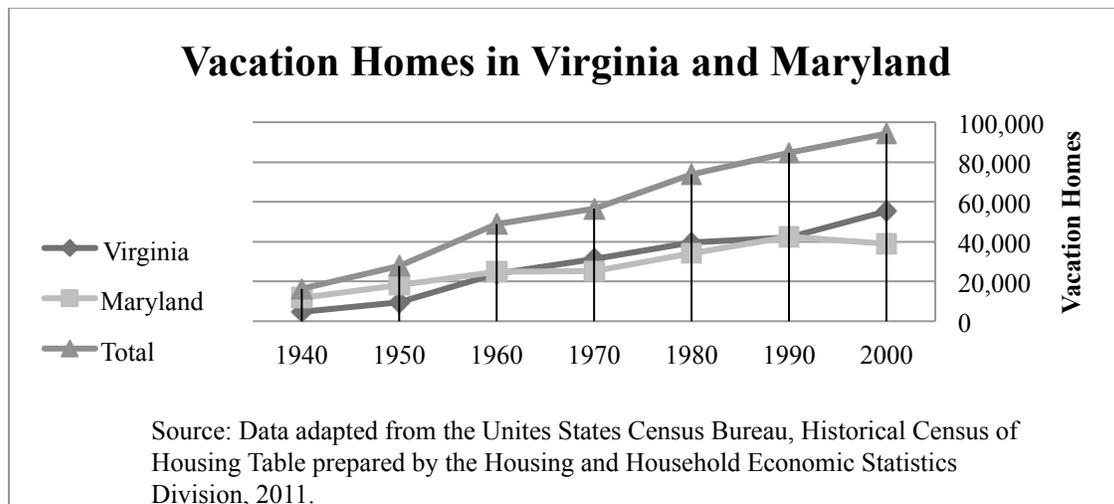


Figure 19. Vacation homeownership grew rapidly in the mid-twentieth century.

<sup>185</sup> Stewart L. Udall, *The Quiet Crisis* (New York: Holt, Rinehart and Winston, 1963), 188-190; Siry, *Marshes of the Ocean Shore*, 162. For consumerism in America, see Rome, *The Bulldozer in the Countryside*, 60-64. For vacation homes, see U.S. Census Bureau, “Historical Census of Housing Tables, Vacation Homes,” by Housing and Household Economic Statistics Division, <http://www.census.gov/hhes/www/housing/census/historic/vacation.html> (accessed March 31, 2014). For more on the rising standard of living and popularity of the shoreline, see Siry, *Marshes of the Ocean Shore*, 160-161.

The Potomac became more valuable to residents of Washington, Virginia, and Maryland as a place of play, leisure, and recreation. As with any landscape, value is not one sided and although the river's waters would continue to provide limited economic productivity, the primary purpose of the landscape was for recreation. As they moved into the rural landscape, middle-class weekenders and retirees brought with them strains of environmentalism that were new to the countryside. The budding environmental movement of the 1960s fostered a foundation for the future of Potomac restoration in the second-homes of weekenders. This is not to say that locals wantonly used resources to the detriment of the environment, but that middle-class Americans could afford to prioritize fish in the river over fish in the boat because their livelihoods did not depend on them. For most of the century, the Potomac endured the Progressive, utilitarian mindset where the river's resources—be it oysters, commercial traffic, drinking water, or a waste-disposal system—served the needs of Americans. Consequences such as overharvesting, pollution, waste, and urban development, however, quickly developed in the wake of such use. By the mid-1960s, however, the health of the environment and aesthetics of the landscape became a social priority.<sup>186</sup>

The environmental movement and ecological concerns provided headline news in the 1960s, finding particular support in the homes of the middle class. As historian Hal Rothman writes, environmentalism's main "beneficiaries were the middle class." The middle class had the means to enjoy and lobby for a cleaner environment, and, like the upper middle class, to buy vacation homes. In turn, second homeowners had increasing incentive to clean up and

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<sup>186</sup> Siry, *Marshes of the Ocean Shore*, 112-125.

support calls for restoration along *their* shoreline. With every vacation home, the calls for Potomac restoration efforts garnered money and influence from Washington, Virginia, and Maryland homeowners. This recreational, vested interest in the health of the Potomac overshadowed ongoing fishing and commercial interests in the region. The growing segment of second homeowners fostered a vested interest in the restoration of degraded landscapes like the Potomac. And while the environmental movement made progress in the 1960s, people from the city continued to buy vacation and retirement homes. In 1970, *The Washington Post* ran a real-estate special on second homes close to the Washington, D.C area. "If you would like an old farmhouse on a couple of acres of waterfront land for about \$25,000," the article stated, "you're probably 10 years too late."<sup>187</sup>

Amid calls for restoration of the ailing Potomac environment, President Lyndon B. Johnson announced a new course on February 8, 1965. He ordered a formal plan of restoration for the river, ordering that the Potomac, "rich in history and memory which flows by our nation's capital should serve as a model of scenic and recreation values for the entire country." The plan was to clean up the river for boating, swimming, and fishing; protect the river's "natural beauties;" and provide recreational facilities.<sup>188</sup> Just months later, Johnson brought the Potomac into the national spotlight with the signing of the Water Quality Act on

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<sup>187</sup> Rothman, *The Greening of a Nation*, 107, 109-125. Quote on page 107. For the complicated relationship between consumerism and environmentalism, see Rome, *The Bulldozer in the Countryside*, 12-13. For more on the destruction of landscapes and the impact on recreation, see Rome, *The Bulldozer in the Countryside*, 139-142. For newspaper quote, see Madeleine Lundberg, "A Second Home on the Shore for Only \$125,000?" *The Washington Post*, April 5, 1970.

<sup>188</sup> Lyndon B. Johnson, "Special Message to the Congress on Conservation and Restoration of Natural Beauty, February 8, 1965," "The American Presidency Project," <http://www.presidency.ucsb.edu/ws/?pid=27285> (accessed March 31, 2014).

October 2, 1965. “We are going to begin right here in Washington with the Potomac River,” Johnson declared, where “two hundred years ago George Washington used to stand on his lawn down here at Mount Vernon and look on a river that was clean and sweet and pure.” But “today the Potomac is a river of decaying sewage and rotten algae... Today all the swimmers are gone; they have been driven from its banks.” By the late 1960s, the Potomac symbolized neither glory nor national virtue, nor an environment of abundance and wealth. Instead, the river had become an embarrassment to the nation. As part of a greater environmental movement, the nation had to restore the river, and Johnson articulated recreation as the ultimate goal.<sup>189</sup>

Like history, the transformation of a landscape is not a story of clean breaks and tidy changes, but more accurately a series of blurred shifts and paralleled events. Such was the case of the Potomac. By the mid-1960s, the river, however messily, proceeded to transform from a place of work to a place of white, middle-class play even as fisheries and farming continued in a limited capacity. The shoreline appears now as a series of chopped up lots, second-homes, and residents hold diverging opinions on restoration. The Potomac shoreline transformed from a place of work, national ideology, and recreation in the 1930s, to an environment of recreation in need of restoration by the late 1960s and early 1970s. The river’s environmental problems precluded its worth as a symbol of national meaning by mid-century; harboring historical significance, but no longer national virtue within the algae-filled

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<sup>189</sup> Lyndon B. Johnson, "Remarks at the Signing of the Water Quality Act, October 2, 1965," "The American Presidency Project," <http://www.presidency.ucsb.edu/ws/?pid=27289> (accessed March 31, 2014).

contested waters. Simultaneously, declining resources, a deteriorating environment, and agricultural trends weakened the river's material value and disconnected communities from the landscape. Amid this environmental and social change, as Washington expanded and the transportation allowed, the landscape became a place for white, middle-class weekenders and retirees with new environmental perceptions. Weekenders had a vested interest in the health of the river in the late 1960s, emphasized by Lyndon Johnson's call to action, and the river needed restoration to fit within white America's vision for recreation.

By the 1970s, weekenders and second-homeowners would have a growing influence setting policy and restoration criteria as they funded projects and supported environmental agencies and non-profit organizations. Recreation would ultimately trump concerns over other uses of the river, leading to a specific form of environmental restoration. Fittingly, in 1968, waterman Edwin Beitzell foreshadowed the primary role of recreation on the future restoration of the Potomac. "More and more of the city people are taking up bits of land on the Potomac, for weekend retreats, to escape the hurly-burly of the crowded cities," he opined, "So the Potomac will see more of youth on her shores and this is good for they will learn to love the river and help undo the damage done in the past."<sup>190</sup>

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<sup>190</sup> Beitzell, *Life on the Potomac*, 135.

## CONCLUSION

The Potomac River is the lifeblood of the region, as well as the Washington metropolitan area, and is justly called the “Nation’s River.” The lives of the more than five-million basin residents, 75 percent of whom live in the Washington metropolitan area, are touched daily by the usually silent giant that runs through the nation’s capital. It is the region’s major source of drinking water, accepts the effluent from waste treatment plants, cools power generation plants, and with the attendant C&O Canal, serves the recreational needs of a culture that treasures its precious “down time.”<sup>191</sup>

In 1968, Secretary of the Interior Stuart Udall answered President Lyndon B.

Johnson’s request for a new Potomac with a plan entitled *The Nation’s River*. He was not alone; Udall had the support of the citizens that lined the Potomac’s shore. “Your call for a broadly based conservation plan for the Potomac has stimulated a wide range of useful actions by citizens’ groups and by the Federal, State and local governments during the course of our studies,” wrote Udall. “While [the useful actions] are too numerous to recite, the participation and involvement of citizens in decisions affecting the future of the Basin are most promising and deserve recognition and encouragement.” Lyndon Johnson’s declaration mobilized governments, communities, and individuals across the entire Potomac watershed. The response was not surprising, as the river increasingly became a place for recreation, which exposed environmentalists to the issues surrounding the river. A growing constituency of environmentalists and recreationists in Washington and outlying suburban areas had reason to support such a call and Udall knew the government needed their backing. Between those that saw the environment in utilitarian terms and the “wilderness folk,” federal officials like Udall publicly acknowledged that those “with a sense of the imponderable human value

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<sup>191</sup> “ICPRB: Protecting a River, Advancing a Quality of Life,” Handout, Interstate Commission on the Potomac River Basin, 2013, 1.

of natural ways and natural things may constitute the most powerful support available for thoughtful planning and conservation.” Middle-class environmentalists, many with vacation homes, served as the backbone for restoration, flocking to organizations like the Chesapeake Bay Foundation that arose immediately in the wake of Johnson’s call. In turn, a multitude of organizations, agencies, and citizens all served as vehicles for generating restoration ideas and values. This gave root to the idea of a golden age. Americans in the late twentieth century were to be the redeemers of the river, turning back the clock on four hundred years of neglect and abuse.<sup>192</sup>

But things got worse before they got better. Even as the country celebrated the first Earth Day and the establishment of the Environmental Protection Agency in 1970, the Potomac worsened. Hurricane Agnes deluged the Chesapeake in 1972 ringing in one of the wettest years on record. That storm, to many people, marked the river’s low point. The rains sent nitrogen and phosphorus, chemicals, pollutants, sediment, and freshwater down the river in unusually high quantities. The partially deforested banks of the Potomac and the pavement and concrete of the Washington metropolis area accelerated the onrush of water. This was not the first hurricane to hit the river, but it was the first to hit it in such a stressed and vulnerable state. Oyster reefs no longer lined the river bottom, natural flood controls like marshes and tidelands had been dredged, underwater grasslands covered by sediment, and the forests that once lined the shores no longer provided a buffer. The river had no natural coping

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<sup>192</sup> U.S. Department of the Interior, *The Nation’s River*, by the Federal Interdepartmental Task Force on the Potomac (Washington, DC: U.S. Government Printing Office, 1968), 2, 63-83.

mechanisms left. Humans had set the stage for an environmental disaster and nature closed the curtain.<sup>193</sup>

More than three hundred years of human-induced sedimentation, trash, sewage, nutrients, dangerous chemicals, and improvement projects created a river that could no longer provide for the people and organisms that relied on it. Green mats of algae covered the water in front of the capital, while fish stopped spawning in the sixty-mile stretch below the capital. In 1972, the D.C. Health Department prohibited “water skiing, swimming, and wading in the Potomac, Rock Creek, and Anacostia River,” while millions of gallons of raw human and animal sewage still made its way into the river every day. Oxygen levels were so low in certain parts of the river that fish could not survive, while the river bottom was a putrid mix of noxious sediment. Chemicals like arsenic found their way into the water from industry along the shore.<sup>194</sup> Sewage overflow, pathogens like polio, and trash rendered the waters unsafe for swimming or fishing along much of the river. Chesapeake Bay emergent grasses declined from approximately 247,000 acres to just 38,000 by the 1980s. The river was sick—very sick. Ed Hopkins, of the Clean Water Action Project, disagreed with editorials promoting environmental improvement that suggested the river was once again swimmable. Although acknowledging that the river had improved since the first Earth Day seven years before, Hopkins noted the “question is not just if the river is swimmable—one could probably swim on an oil slick if so inclined—but if it is safe for swimming. On this

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<sup>193</sup> Tom Horton, *Turning the Tide: Saving the Chesapeake* (Washington, DC: Island Press, 2003), 20, 187-189.

<sup>194</sup> “A Clean-Up Chronology,” *The Washington Post*, November 10, 1977; Maggie Locke, “The Potomac: Searching for a Cleaner River,” *The Washington Post*, November 10, 1977.

score, the Potomac fails.” The 1970s cemented an intertwined future of recreation and restoration of the river in the decades to come.<sup>195</sup>

How easy it is to smooth over the past and distill a landscape’s story like that of the Potomac into one of decline. Such a narrative seemed even easier as Washingtonians stared at a thick mat of algae along the shores of the Washington waterfront and dead fish washed up along the shores of tidewater communities in the 1960s and 1970s. Yet, the path to that point is far more complicated. The river had always been in flux, growing or disappearing depending on the climatic forces at play. Early inhabitants shaped their societies and settlements around the ever-changing flora and fauna and climate as sea level changed. Native American low-density and varied subsistence patterns suited the region but were far from benign. Local exploitation and depletion altered settlement density and population movements. But, Native Americans largely adapted to the river and its seasonal patterns by spreading their consumption over the seasons, habitats, and variety of species. Native Americans created the Potomac that Europeans lauded upon arrival. It was an intensely used, diverse, and managed garden. The landscape was not pristine, but shaped to fit a dynamic and mobile society that was as fluid as the river’s shoreline. The Potomac was a place of life and everything that term encompasses—food, family, toil, play, conveyance, and home.

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<sup>195</sup> Victor S. Kennedy and Kent Mountford, “Human Influences on Aquatic Resources in the Chesapeake Bay Watershed,” in *Discovering the Chesapeake: The History of an Ecosystem*, eds. Philip D. Curtin, Grace S. Brush, and George W. Fisher (Baltimore: Johns Hopkins University Press, 2001), 193. For the last quote, see Ed Hopkins, “The Potomac Is Still Unsafe for Swimming,” *The Washington Post*, May 18, 1980; “A Clean-Up Chronology,” *The Washington Post*, November 10, 1977.

Then monumental change arrived in the form of European ships. A global economy, new technologies, and different perceptions of property and boundaries remade the shoreline into an economically driven landscape. European hegemony forcibly replaced the previous Algonquian inhabitants, while introducing a new agent to the landscape in the form of slaves. Tobacco plantations increased the clearance of forests and exhausted the region's soils. Farmers fought soil exhaustion using local knowledge and experimentation to *restore* the land through the use of fertilizer and crop rotation. They needed and wanted a fertile landscape for agriculture. By the Civil War, sediment, nitrogen, and phosphorus altered the physiology and biology of the Potomac, while white and black Americans shaped the shoreline.

But we must be careful not to mistake change with exploitation and decline. Exploitation and decline imply intent and understanding of potential consequences. Europeans brought new perceptions and ways of thinking, altering the landscape to fit within their needs, just as the Native Americans had. These alterations produced consequences in the form of environmental change, but early settlers sought to manage their new homesteads, not to destroy them. Technology and global economies amplified the consequences of social and cultural differences between indigenes and colonists in the form of environmental change. Despite these distinctions, the shoreline, like the Native Americans before, remained a place of life as the Civil War commenced. People lived every aspect of their lives in the shadow of the slow moving river with its value as a highway and provider.

The post-Civil War period brought new industry and meaning to the Potomac. The river fisheries—oysters, crabs, and finfish—took off as industrialization expanded. Tidewater

communities harnessed the biological productivity of the river with unprecedented efficiency. The heavy use provoked social tensions and raised questions: How much harvesting was too much? And who had right to the river's productivity? Global demand for products like fish oil and fertilizer supplanted local control and knowledge with capital and technology. Rural folks grappled with balancing progress and prosperity with conservation of resources and ethical practice. A familiar question rang through these decades—how to use a river without killing the 'goose that lays the golden egg?' Locals and state governments wanted to both use and conserve the productivity of the river, be it for oysters, crabs, or fish. Yet, the influx of commercial interests and persisting controversy of river ownership and resource management complicated these efforts. With more people, states, and communities interested in control, the less control nearby residents actually had over the river. Boundaries and jurisdiction could not compete with interests, creating tensions and points of contention that inhibited effective management and control.

As tidewater communities juggled with the growing economic tensions of industry, a romantic characterization grew out of the Civil War to instill national symbolism in the river's water. It served as the boundary that preserved the country, cut through the nation's capital, delivered the nation's forbearers, and functioned as a reflection of the nation's character. The beauty and fresh air reassured the nation's spirit and its upward trajectory. These symbolic visions aligned with the needs of a rapidly growing Washington. Washingtonians flocked to the shoreline resorts to partake in the scenic, contemplative, and recreational qualities of the river, providing a customer base for resort communities all along the Potomac. Colonial Beach signified a rapidly growing need for recreation outlets. The new

century witnessed a widening dichotomy within the landscape—city and country. Rural residents still largely led a life in the communities along the shore, but new dynamics changed industries and commercialization in the region in the form of outside investments and recreation. Washingtonians, in contrast, worked in the city and fled to the river on the weekends or during the summer by steamboat. The boundaries of life grew with the city. And yet, the river maintained a centrality that was inescapable. It connected city and country, commerce and transportation, work and play, history and romanticism as the twentieth century arrived.

By the turn of the century, however, the river lived two lives. In the minds of Washingtonians, history and romanticism created a symbolic river that departed significantly from the concurrent issues and concerns of urban development. Washington continued to push its metropolitan boundaries outward, sprawling into Virginia and Maryland. Extraordinary population growth induced residential, governmental, and urban development that transported environmental and social consequences outside of the city center. Impervious surfaces led to increased, polluted runoff, while the burgeoning population filled the river with human waste and refuse. The wealthy fled the city to suburban neighborhoods, while African Americans and immigrants filled the inner city and some outer boroughs. Environmental and social ills provoked two responses from Washingtonians: strong support for aesthetic, healthful, and recreational improvement with conservation projects like parks, gardens, and a new waterfront; as well as a physical escape from the ills of urbanity—the city pushed people down the river in search of escape. These two responses coincided to create a city that prized health and aesthetics over unbridled, upward growth, and a populace that

cherished outdoor recreation for both the mind and the body in the liking of Theodore Roosevelt's principles. The city needed escapes in both its environment and in the countryside—the river offered both.

The river's health in the shadow of a thriving metropolis continued to deteriorate. This visible change shook the foundations of romantic thought that accompanied the river. Scientists and citizens searched to understand the extent of the contamination from urban growth and the dangers posed by environmental consequences. Their litmus test was oysters. The contentious bivalves symbolized more than the costs of urbanization, but also an increasing disconnect between Washingtonians and their surrounding landscape. This was part of a larger national transition during the Progressive Era. Trust between consumers and producers shattered as people became removed ever further from the point of production or extraction. Negligence or unscrupulous behavior by purveyors of oysters could mean death by typhoid for the consumer. Fears surrounding oyster harvesting in the Potomac signaled the uprooting of American consumption and a loss of control, or perceived control, by the consumer. Mail order companies and mass produced food commodities began replacing local markets and shops. Disconnection brought new risks and provoked unrest as urban growth intersected with a national and local decline of consumer confidence. By the 1930s, city life shaped a society that had different values and needs than the rural communities of the lower tidewater. Urbanization and growing consumption also disconnected Washingtonians from the immense environmental change the city inflicted. Part of a larger national transition, a city's reach and influence was no longer just in the surrounding landscape. The gap between

city and country continued to widen, and yet the river sutured the diverging interests of city and country as the region's only highway.

The Potomac's dominion on the life of those in both the city and country broke in the 1930s. The depressions of the 1920s and 1930s drove farmers and watermen from the shoreline as farms foreclosed, fishing prices declined, and rural industry consolidated. As the steamboat industry collapsed, roads infiltrated the countryside and rapid urban expansion offered new opportunities for shoreline development. A complicated mix of urban growth, pollution, conflict, overharvesting, and the privatization of shoreline merged to create a formidable obstacle to the Potomac's traditional, material role as a place of farming, fishing, and harvesting. Vacationers and retirees brought new strains of environmentalism and conceptions of what the shoreline should look like and how it should be used. In turn, rural, tidewater residents found themselves disconnected from the shoreline as vacationers with a vested interest increasingly voiced support for Potomac restoration and rejuvenation. Despite the traditional and ongoing role of work along the river, these physical and social transformations inextricably tied the river's value and future to recreation by the 1960s when Lyndon B. Johnson called for Potomac restoration. The Potomac's role as a place of play usurped competing values and uses. Life for many in the suburbs of Washington became one divided between city and country as people lived in the city during the week and in the countryside during the weekend. They put stress on the river in both locations.

The evolution of the shoreline from a place of rural life to recreation continued throughout the twentieth century. By the late 1960s, Secretary Udall noted that the small communities along the rural tidewater increasingly came under the influence of new

recreational homeowners. “Some rural counties and small towns have developed a satellitic relationship to the larger centers of population,” the report read, as “sprawl is beginning to find a congenial form for itself in vacation colonies of ‘second homes’ in scenic places whose remoteness, together with a smaller and more settled population of Americans, used to be their staunch protection.” This would only increase in the years to come. Recreation altered the economic, social, and cultural dynamics in rural Virginia and Maryland. Second homes and recreational development pushed their way down the river toward the Chesapeake Bay with every passing year. Areas like Currioman Bay, Virginia, once distant from Washington, increasingly felt the effects of development (see figure 20, 21 and 22). So even as the Potomac environment worsened, recreation strengthened, becoming inseparable from the project of restoration.<sup>196</sup>

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<sup>196</sup> Ibid., 64. For all aerial images see USGS Aerial Photo, Currioman Bay, Virginia, 1960, 1967, and 1978.

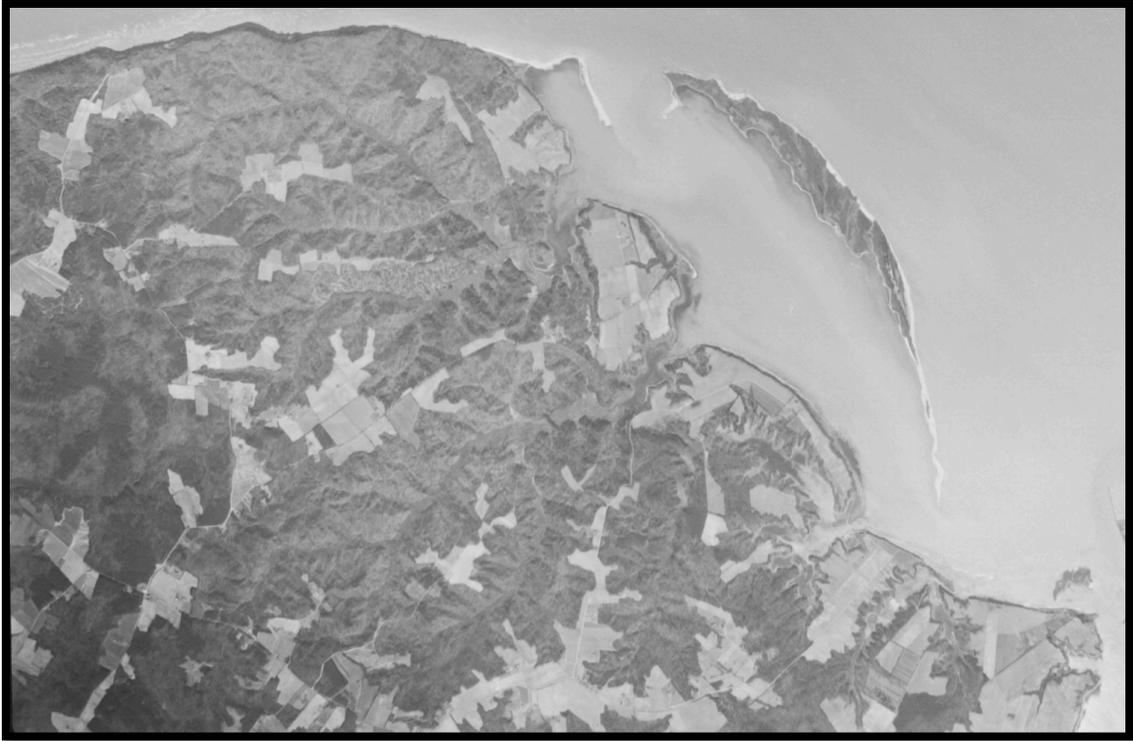


Figure 20. A rural landscape of fragmented small farms approximately eighty miles south of Washington, D.C. Currioman Bay, Virginia, 1960.



Figure 21. A few vacation homes dot the shoreline, while new roads start to cut through the landscape. Currioman Bay, Virginia, 1967.



Figure 22. Residential growth well underway for vacationers and retirees, as local streams are dammed and farms are replaced with shoreline homes. Currioman Bay, Virginia, 1978.

Restoration arose in the wake of recreation as ecological and social problems resulting from urbanization, cultivation, and industrialization intensified. The rapidity of environmental change in the mid-twentieth century made a drive for an idyllic past all the more appealing. But these environmental perturbations that led to restoration were not always noticeable to the individual. Problems like sedimentation and eutrophication were centuries-long processes. But by the mid-twentieth century the timeframe of change sped up and became noticeable within a generation or less. This period of most intense environmental change, between 1930 and 1970, coincided with the most rapid recreational development along the shoreline. The ecological crises, even if poorly understood, were front and center

for a growing middle-class population that was increasingly empathetic with ecological concerns and had the time and money for leisure. In addition, people spent time along the river in both the city and countryside, which provided a new lens for ecological problems and made it more challenging to ignore the growing environmental problems. People cared about the river because they spent more time with it. From the 1930s onward, the stark decline highlighted a need to look deep into the past for a time when the river was not marred by civilization's hand. A drive for restoration departed from the past use of the river as a place of work, utility, and life. Ecological health had to be addressed within the purview of an urban and suburban society that needed the river as a recreational outlet. The transition to a place of recreation with government support opened up space in the landscape and American thought for the idyllic characterization and baseline of golden ideals in restoration.

As the environmental movement gathered steam, it was clear that fixing the intensifying ecological crises required human intervention. Naturally, due to the historic nature of the river, people looked backward. Johnson alluded to the river of George Washington's time, while others grappled with a suitable baseline for environmental health in the past. A landscape like the Potomac lends itself well to a golden ideal because of its story as a historicized and romanticized environment. The nation's river needed aspirations suitable to its status. In addition, the Potomac has no shortage of descriptive accounts of the river going all the way back to John Smith, who offered a convenient account of what had been. Rarely do historical records offer such colorful descriptions as that of John Smith's or Father Andrew White's narratives. Quick acceptance of such descriptions lends an inflated contrast between the then and now, without requiring much thought to the factors and drivers

behind change. The Potomac's historical resonance combined with rapid physical change during the twentieth century to create an environment where the future always lay in the past. Perfection, virtue, and noble existence were always behind, part of the something long ago lost. The possibility of a healthy environment was set apart from the ignoble contemporary society along the river's banks. Eventually, organizations like the Chesapeake Bay Foundation explicitly fostered golden age thinking within a restoration context, creating an appealing narrative of decline that oversimplifies the realities of living within a fragile environment (see figure 23). These are noble but misguided goals. People want to believe recovering the past is possible, but golden ideals are the crutch of restoration. Golden age narratives are so popular because the idea of a pristine past removes conflict and instability from the environment—it evokes a simpler and more peaceful landscape. But there is always conflict and complexity within an environment. By relying on a golden ideal and removing complexity from an ideal landscape, however, we remove that envisioned landscape from potential reality. Unrealistic ideals deter us from reconciling the various interests of every landscape—like work and play—and adapting to life within the dynamic watershed of the Potomac.<sup>197</sup>

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<sup>197</sup> For timeline, see Chesapeake Bay Foundation, *2012 State of the Bay Report* (Washington, DC: Chesapeake Bay Foundation, 2012), 18-19.

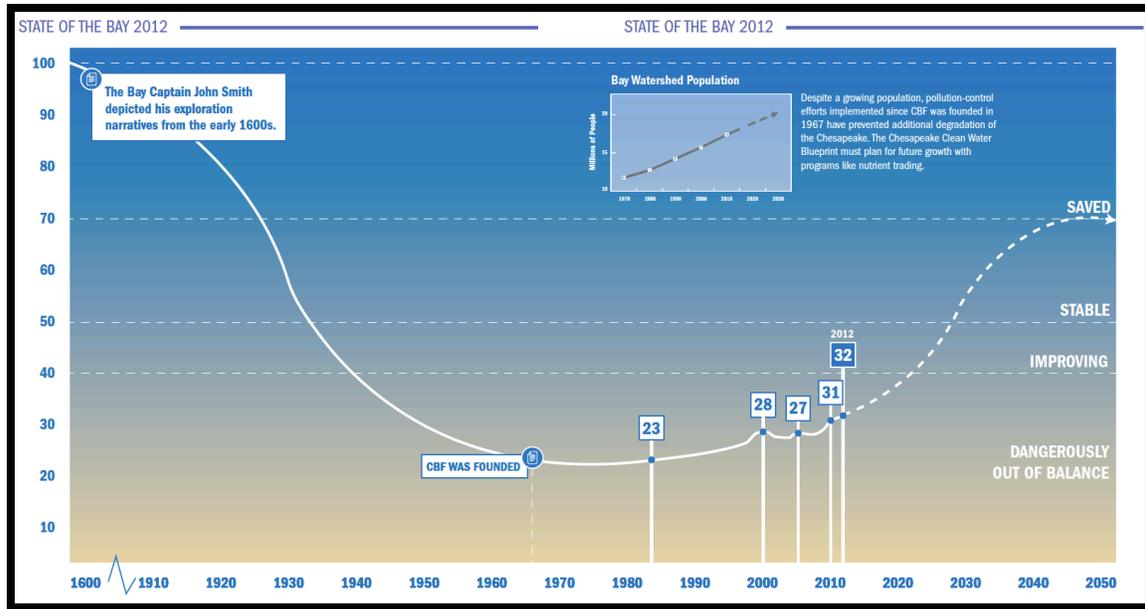


Figure 23. Timeline of the Chesapeake Bay Foundation creates a steep narrative of decline.

More importantly, however, the idea of a golden age within restoration empowers some voices while neglecting others. Some, like second homeowners and Washington residents, enjoy decision-making power in non-profit organizations and politics, while others, like minorities and locals, are ignored or removed from the conversation. Aldo Leopold was absolutely right when he wrote that a “conservationist is one who is humbly aware that with each stroke he is writing his signature on the face of his land,” and he was also right that “Signatures of course differ, whether written with axe or pen, and this is as it should be.” Restorationists and conservationists do influence the direction of restoration and the future of a landscape with their voices or physical labor—they leave their mark. But Leopold neglected to mention that not everyone is given a pen or piece of paper on which to write his or her metaphorical signature. The project of restoration awards voices to some and not

others. The golden age ideal complicates the situation by vilifying some agents in the landscape, while ignoring others. Farmers and watermen are associated with environmental degradation while recreation is seen as benign. Those that work are associated with conflict and incompatible with a pristine vision. Every group affects environmental health, but the greatest power and place-shaping ability remains with the largest proponents of restoration—the white, middle class who use the river for recreation.<sup>198</sup>

To see this truth in action, consider the Potomac landscape in the early 21<sup>st</sup> century. The Potomac today is healthier than forty, sixty, or even one hundred years ago. Restoration efforts have helped alleviate some of its worst ecological problems. People have once again start trusting the river, swimming in areas that used to be off limits and catching fish like rockfish (striped bass) that almost disappeared decades ago. Policy has shifted from point sources like industrial centers to nonpoint sources like agriculture and runoff. But the restoration movement is limited without rethinking and redefining the concepts and framework inherent in such a process. The shoreline is armored, second homes line the banks, motorboats cut through the water, and millions of people use it as a playground.

Recreation increasingly dominates the direction and investment of counties along the river. A 2010 joint economic plan of counties in the Northern Neck of Virginia explicitly defines the region's economic future as recreational. "Vacation homes are now responsible for a significant surge in the population of the Northern Neck, particularly between May and September. This seasonal shift deeply affects the local economy, and it must be considered in

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<sup>198</sup> Aldo Leopold, *A Sand County Almanac: With Essays on Conservation from Round River* (New York: Ballantine Books, 1966), 73.

all aspects of economic development.”<sup>199</sup> The tidewater Potomac is also now completely accessible by car, opening up communities that had once avoided recreational colonization. Tidewater communities that used to depend on agriculture and marine resources increasingly rely on an influx of capital from recreation as services like restaurants, lodging, marinas, and stores accommodate seasonal visitors with seasonal hours. Recreational development once congregated residential structures around steamboat wharves, but with the collapse of the steamboat industry in the 1930s, development has lined the shore as roads have allowed. Intermittent private property along the river is giving way to armored, continuous shorelines of private ownership in both Maryland and Virginia. By the year 2000, about a quarter of the 27,353 houses in the Northern Neck were for seasonal or recreational use, with Westmoreland and Northumberland ranking in the top ten of Virginia counties with the most seasonal and recreational homes.<sup>200</sup>

Some organizations like the Potomac Conservancy are starting to follow the recreational value of the Potomac. Its *2013 State of the Nation's River* report includes a page on recreation and provides a snapshot of how the river is currently used. Currently 150 public access sites dot the upper and lower river. The Potomac River Fisheries Commission sold 6,350 recreational fishing licenses compared to 713 commercial licenses in 2012. In addition, outdoor recreation in Virginia and Maryland accounts for 23.1 billion dollars in consumer

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<sup>199</sup> The Northern Neck Planning District Commission, *2010 Northern Neck Comprehensive Economic Development Strategy* (Warsaw, 2010), 1, 12-15, 22.

<sup>200</sup> STATS Indiana, “U.S. Counties in Profile,” Indiana Business Research Center, [http://www.stats.indiana.edu/uspr/a/us\\_profile\\_frame.html](http://www.stats.indiana.edu/uspr/a/us_profile_frame.html) (accessed April 23, 2013); The Northern Neck Planning District Commission, *2010 Northern Neck Comprehensive Economic Development Strategy* (Warsaw, 2010), 12-15, 22.

spending and continues to grow. The future for recreation is only expanding, evolving to include new activities and uses of the river.<sup>201</sup>

This transition is not without costs. Between 2002 and 2007, farmland in the Northern Neck of Virginia decreased by about 6,000 acres as the average size of each surviving farm increased. Small farms that characterized the early twentieth century are largely a thing of the past, making room for second-homeowners and big-agriculture. The coastal plain of Virginia has the highest percentage of row-crop agriculture in the state.<sup>202</sup> But changes have not only been agricultural. The average commuting time of individuals in counties like Westmoreland County, Virginia is 40.5 minutes, underscoring the reality that people not engaged with farming or seasonal business are forced to look far outside the county for work. In addition to white farmers, a closer look at county populations suggest a continued displacement of African American farmers. Almost 28 percent of Westmoreland County's population is African American, and yet, there are now only thirty-two African American and minority owned farms. Only ten of those thirty-two farmers are full owners. Additionally, the influx of recreational users is anything but diverse, as almost 92 percent of all second-homeowners in the nation are white. The vested voices of the community tend to reside in the affluent, white spheres of power.<sup>203</sup>

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<sup>201</sup> Recreational licenses include individual sport, pleasure boat, charter boat, rental boat, sport crabbing) while commercial licenses includes (finfish, crab, oyster). See Potomac Conservancy, *2013 State of the Nation's River* (Silver Spring, MD: Potomac Conservancy, 2013), 7.

<sup>202</sup> Baker, "Part VI: Soils of Virginia," 71-72. As of the end of the twentieth century.

<sup>203</sup> This is a decline from 53 African American farms in 1969. For agricultural numbers, see "1997 Census of Agriculture: Virginia State and County Data, Volume 1" by the United States Department of Agriculture, National Agricultural Statistics Service (Washington, DC:

Watermen, like small farmers and locals, struggle to maintain a visible presence along the shoreline. Millard “Bunny B” Bryant remembers small farms lining the creeks and shores, while watermen worked the bays and channels and kept their workboats in the shallows of local coves. But the Potomac River of today has changed. In 2013, the places like Currioman Bay waters, that in 1953 employed at least eighteen fishermen and oystermen, support only two part-time watermen. Like many watermen along the river, Bunny B holds three jobs to make ends meet. Watermen have less access to the river than in the past. Some watermen trailer their boats to different sections of the Chesapeake in order to maintain a mobility that increases the chance of a successful season. But rising costs of gasoline limits trailering for most watermen, as increasing user fees in states like Virginia squeeze watermen and make a livelihood on the water even more difficult. There should indeed be costs for extracting resources on the water, but the fee appears all the more bewildering given the extremely cheap Chesapeake oyster prices at local restaurants. Vacationers get cheap oysters, while watermen are subject to steep user fees that require about three extra days of work for every small-scale waterman. Not everyone is carrying his or her share of the costs for using and enjoying the river.<sup>204</sup>

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Government Printing Office, 1997), 549-550. For commute times, see “State & County Quickfacts: Westmoreland County, Virginia,” by the United States Census Bureau, <http://quickfacts.census.gov/qfd/states/51/51193.html> (accessed March 31, 2014). For information on second-homeowners, see Gary V. Engelhardt, *Housing Trends Among Baby Boomers* (Research Institute for Housing America, 2006), 12.

<sup>204</sup> Millard Earl Bryant, “Bunny B,” interview by author, Montross, Virginia, November 10, 2013, in author’s possession. For a more on the user fee, see Tamara Dietrich, “State: Oyster harvest may be the biggest in 25 years,” *Daily Press*, August 15, 2013.

But environmental injustice is only one consequence of the recreational turn. The loss of farmers and watermen highlight another disconnect from the natural world that has grown since the rise of urbanization in the early twentieth century. Today's occupants seem not even to understand the seasons. Last year, I was at the local produce stand in spring when a black Audi pulled up. The driver walked over to the owner and asked, "Do you have any corn?" This particular produce stand grew everything in the fields adjacent to it. Knee-high corn, still months from harvest, literally surrounded the makeshift shed. The owner replied, as if she had been asked this before, "There is a Food Lion a mile down the road." Consider what not knowing that corn has a season says about the profound lack of connection between Mr. Audi and his landscape.

The society that lines the shores no longer has an intimate understanding of its organisms, processes, and limits. Although this knowledge aided some oystermen, fishermen, and farmers in exploiting the landscape in the past, the accumulated knowledge of those that work in the landscape is a potential asset in the ecological restoration projects. Watermen like Bunny B's father knew exactly when and where to drop nets and crab traps; some fishermen could find schools of fish by tasting the water, while farmers knew how to read the seasons and fluctuations of the local climate. For all our scientific knowledge of the natural processes and organisms in the Potomac, our simple understanding of the world around us lacks practical depth. I do not mean to invoke nostalgia for a working past, but imagine, if instead of vilifying the workers of the landscape as so many past narratives do, we harnessed their intimate knowledge of the river in restoration projects. Aristotle concisely summarized the problem of knowledge without experience. "Lack of experience diminishes our power of

taking a comprehensive view of the admitted facts,” he wrote, “Hence those who dwell in intimate association with nature and its phenomena grow more and more able to formulate...principles such as to admit of a wide and coherent development.” Consequently, “while those whom devotion to abstract discussions has rendered unobservant of the facts are too ready to dogmatize on the basis of a few observations.” Without experience and understanding through work, scientific facts may be limited in application. To their credit, some non-profits have recently included watermen in oyster restoration projects. But more can be done. Restoration as a movement, particularly to a golden age, is too quick to dismiss groups that might otherwise become allies in the fight for environmental health. The juxtaposition of work and recreation need not establish opposing forces and restoration would benefit from a reconciling of the two.<sup>205</sup>

Ironically, while the proponents of golden age restoration are quick to vilify and ignore others, the largest segment of supporters—affluent, white recreationists—are slow to examine their own utilization of the Potomac. For all the ecological focus on overharvesting and exploitation, the environmental consequences posed by recreational homeowners and developers have largely escaped scrutiny. The ills of urban and suburban growth are well documented, but the acute costs of individual second homes are less exposed. “Saving the Bay” and having a vacation home, two jet skis, a boat, a green lawn, and an armored shoreline may prove hard to do. Recreation has costs like any other land-use, but unfortunately, many restorationists seem to see their own actions as benign. Educating

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<sup>205</sup> Aristotle, “On Generation and Corruption,” trans. H. H. Joachim, MIT, [http://classics.mit.edu/Aristotle/gener\\_corr.1.i.html](http://classics.mit.edu/Aristotle/gener_corr.1.i.html) (accessed March 31, 2014).

homeowners and promoting volunteer cooperation on methods of erosion control and environmental management techniques will only take the river and Chesapeake so far. Restoring an ailing ecosystem requires more than volunteer programs and goodwill commitments. It takes laws, real enforcement, penalties, and costs. But it also takes a large-scale social effort to try and understand how to live within a watershed that transcends manmade boundaries and ideas of private property. Reconciliation of competing uses is the key to a future where society and river can reach a healthy medium.

Homeowners, developers, and vacationers need to bear a larger portion of the financial burden that comes with enjoying the river. The cost of maintaining an ecosystem in the shadow of a population of millions has a high cost, but if those who benefit most from the river do not carry the cost, the displaced constituents and environment will be left with the debt. Reexamining the costs and assumptions inherent in the restoration process may shed light on better ways to include the complex values and lost voices that exist in every landscape, as well as better ways to account for ecological change. It would behoove Americans to not only involve as many as possible, but to share the burden amongst society. Watermen and minorities should not have to carry the costs in the form of fees, displacement, and economic colonization without a voice in the matter. Responsibility for environmental change belongs to society; it is just that decisions about restoration are not open to all of society. We need to rethink the definition of restoration to include a more holistic view of the physical and natural world that includes a human element of social and cultural networks. Instead of trying to create a river apart from humanity, perhaps we should try to acknowledge all of the complexities and voices of American society within the idea of a healthy

environment. Many people have a stake in the Potomac environment and each deserves the right to be there.

The Potomac provides a national learning opportunity. Entitled the nation's river by many individuals and organizations, the high-profile nature of the Potomac has attracted press and funding that few environments enjoy. The country's success in this landscape will have ramifications in areas across the country as society learns to deal with ecological crises. The Potomac's rich "improvement" project history offers plenty of learning experiences for others. Like past improvement projects, current restoration fails to suggest how a growing region might learn to coexist with the river without watershed residents changing their value systems significantly. An idealized past is the core that drives much of contemporary restoration, which relies on cooperation between government agencies and non-profit organizations as well as individuals to support and carry out projects. Those interested in the current restoration of the Potomac want to *improve* the river to fit within a vision, which is no different than the improvement projects of the past. We are making choices for generations yet to come, creating a river they will inherit. Americans perpetually try to improve the Potomac because we cannot look past our own fleeting visions for the landscape and we cannot reconcile competing interests.

A vision of the pristine past oversimplifies the river's story, and the choices, wants, and needs of past inhabitants. Judging the present by a constructed and romanticized golden age creates a perpetual decline in a river's story and censors voices. It assumes that Americans have failed, when in reality, individuals of the past had a different vision for the river. And while it can certainly be said that the environment has changed—and not for the

better—since 1600, romanticizing the past narrows the possible range of interpretations for ecological restoration and puts us on a course of perpetual improvement. We can never get to the past and by ignoring how to learn how to live in the present, we preclude a comprehensive plan for the future—what species we save, what policies we pursue, and the choices we make for generations to come.

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