ABSTRACT

Title of Thesis: **EXPANDING THE HISTORIC NARRATIVE OF AFRICAN AMERICAN WATERMEN IN CHESAPEAKE BAY COMMERCIAL FISHERIES: PRESERVING CULTURAL HERITAGE AND ENSURING FUTURE AFRICAN AMERICAN MARITIME PARTICIPATION THROUGH A SOCIAL-ECOLOGICAL SYSTEMS PERSPECTIVE**

Imani Black, Master Of Science, 2024

Thesis Directed By: Dr. Matthew Gray, University Of Maryland Center For Environmental Science

Dr. Jen Shaffer, Department Of Anthropology

This thesis investigates African Americans' historical and contemporary contributions to the Chesapeake Bay commercial fishing industry, employing a social-ecological system (SES) framework to explore their roles, challenges, and the decline in their participation. Utilizing methods such as oral histories, participant observations, and historical analysis, the research highlights the significant yet underrecognized contributions of African American communities to the maritime heritage of Chesapeake Bay. Through in-depth interviews with African American watermen, historians, and community members, the study examines their achievements, obstacles, and the impacts of ecological and social change on their participation trends. Additionally, it assesses the influence of prominent African American coastal communities on

commercial fisheries and discusses strategies for future engagement and adaptation in a rapidly evolving industry. The findings challenge prevailing perceptions of marginal involvement by revealing substantial African American participation across various aspects of the fisheries, emphasizing the importance of acknowledging this legacy and promoting diversity and inclusion for industry sustainability. By showcasing the rich heritage and ongoing excellence of Black maritime traditions in Chesapeake Bay, this thesis underscores the critical need for greater recognition of African American contributions to the Bay's preservation, restoration, and strong ties to the cultural heritage that have built the coastal communities along its shorelines.

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by

Imani Black

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Advisory Committee:

Professor Dr. Matthew Gray, Chair
Dr. Jen Shaffer
Dr. Michael J. Chiarappa
Vincent O. Leggett

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Chapter 1: Introduction

The Chesapeake Bay Region has played a significant cultural role in the African American experience since the era of enslavement, mainly through the commercial fishing industry. African Americans have populated over 90% of maritime occupations and the industry's workforce using their traditional skills across vital historical periods, participating in labor activities such as oyster shucking, boat building, navigation and seamanship, fish net making, and dockworking. Ultimately, their occupational roles were diverse and varied, ranging from manual labor to skilled fabricators to business owners, all supporting African American families and communities and ushering in industry participants over many generations (Cecelski, 2012; Hoskins‑Brown, 2020; Schermerhorn, 2011; Small, 2019),

Despite their extensive involvement, significant contributions, and centuries-long reliance on the Chesapeake Bay, the narrative of African American watermen remains poorly understood and under-documented within the region's historical discourse (Bolster, 1997; Cecelski, 2012). The decline in African American maritime participation over time within the Chesapeake Region can be attributed to racially discriminatory laws and societal mistreatment that date back to the arrival of enslaved Africans (Scott-Jones, 2020). Despite the necessary focus on racial injustice, it is imperative to redress the narrative by acknowledging the historic accomplishments and enduring contributions of African Americans to the social-ecological evolution of the Chesapeake Bay.

In recent decades, scholars have emphasized the need for greater recognition and accessibility to archival documentation of Black maritime history (Smith, Flower, & Larkin, 2009). As of 2024, the dwindling number of African American commercial watermen operating within the Bay's fishing industry it has been unclear on the actual number of Black commercial watermen that still exist and are active in the Chesapeake Bay watershed, strengthening the urgency of further exploring the Black maritime legacy to add to the existing literature available. The decline in participation, marked by decreasing engagement

and involvement of African Americans in maritime activities over time, and community fragmentation, characterized by disparate approaches within industry, academia, and government agencies toward social-ecological perspectives, fisheries management strategies, coastal conservation, and cultural preservation, have compounded the challenge of fully integrating the African American maritime legacy into the broader historical narrative of the Chesapeake Bay commercial fishing industry. These phenomena not only hinder the preservation of cultural heritage and traditional knowledge but also obscure the profound historical contributions of African American watermen to the social-ecological fabric of the Chesapeake Bay region.

This research employs a socio-ecological approach to investigate the anthropogenic factors that have contributed to the current lack of participation and the continuous underrepresentation of African American involvement in the commercial fishing industry of the Chesapeake Bay. By analyzing the interplay of ecological, social, cultural, and political factors shaping African American engagement in Chesapeake Bay fisheries, the research seeks to provide valuable insights into the complex dynamics shaping their engagement in the industry. The study utilizes oral histories collected from various Chesapeake Bay perspectives, specifically the last remaining Black commercial watermen, to elucidate African Americans' significant contributions, challenges, and impacts within the fishing industry across historical and contemporary contexts. More importantly, this research has the opportunity to provide comprehensive insights into the vulnerabilities and complexities within coastal communities.

To effectively honor and preserve the profound cultural legacy of the Chesapeake Bay, it is critical to adopt a collaborative and inclusive approach that recognizes and celebrates the invaluable contributions of African American watermen while also taking into account the broader maritime history of all demographics and communities that have shaped the Bay's narrative (Mamary, 1994). This

approach is especially vital as the region confronts future social-ecological transformations and challenges in the years ahead.

The Historical Timeline of African Americans in the Chesapeake Bay Region: The Enslavement Era (the 1600s to 1860s)

The period spanning from the 1600s to the 1860s stands as a testament to the enduring struggle and resilience of enslaved Africans and African Americans in the Chesapeake Bay region. Amidst profound suffering, they relentlessly pursued freedom (Chhaya et al., 2023). Navigating a complex social-ecological landscape, they grappled with labor exploitation, environmental resources, community resilience, and cultural preservation. This era foreshadowed a significant shift in labor dynamics and economic structures, laying the groundwork for centuries of exploitation and inequality of enslaved Africans, freed slaves, and African Americans throughout this historical timeline.

The late 1600s were transformative for the Chesapeake Bay region ecologically, providing vital resources such as fish, shellfish, and other marine life essential for sustenance and trade. The commercial fisheries of the Chesapeake Bay were crucial to the regional economy, boasting a rich array of species, including shad, terrapins, sturgeons, blue crabs, oysters, and canvasback ducks, during the early 19th century (the early 1800s-1870s). Throughout this era, African Americans played a crucial role in its socio-economic evolution, particularly in exploiting marine resources (Chhaya et al., 2023). The ecological landscape influenced the presence of African Americans in the Chesapeake Bay region during this era. The institution of slavery shaped social hierarchies, power dynamics, and the economic structure of the area. The profitability of cash crops like tobacco drove the expansion of slavery, creating a demand for intensive labor (Berlin, 2003).

By the early 1700s, enslaved Africans had become the backbone of the plantation economy,

replacing European indentured servants as a more permanent labor force (Sinha, 2016; Wesley, 1967). Tasked with fishing, crabbing, and oyster harvesting, they significantly impacted the bay's ecological balance while contributing to the wealth and influence of plantation owners (Mamary, 1994; Ball, 2009; Cecelski, 2012; Baptist, 2014;) enslaved African Americans formed the primary labor force, deeply entrenched in the plantation economy, and played pivotal roles across multiple industries like agriculture, fishing, oystering, and shipbuilding (Kennedy, 2018; Chhaya et al., 2023). This dynamic shifted in 1796 when the federal government began issuing Seamen's Protection Certificates, recognizing African Americans, including those enslaved, as U.S. "citizens" (Bolster, 1997; Hoskins-Brown, 2020). This milestone not only opened doors for Black individuals in marine-related careers but also provided a platform for asserting their identities beyond the constraints of slavery (Mamary, 1994; Mann, 2013; Chhaya et al., 2023). Nineteenth-century fisheries provided livelihoods for thousands, witnessing a 58% employment increase between 1880 and 1897 (Mamary, 1994; Chhaya et al., 2023),

The Antebellum Period and American Civil War (1861-1865) marked significant upheaval and transformation for African Americans in the Chesapeake Bay. The legal system during this era further entrenched slavery, treating enslaved Africans as property and punishing them severely for any attempts at resistance. As racial tensions soared, the term "Jim Crow" symbolized the deep-rooted struggles African Americans faced (Whitman, 2007; Cecelski, 2012). Colonial legislatures solidified the status of enslaved Africans as property, imposing strict penalties for attempted escapes, rebellion, and resistance, thereby reinforcing the control of plantation owners (Baptist, 2014; Wood, 1997). As they faced hostility and economic displacement, their resilience, rebellion, and cultural preservation endured, though freedom ushered in new challenges, leaving an indelible imprint on the region's social, economic, and cultural landscape (Whitman, 2007; Kennedy, 2018).

Despite centuries of enslavement During the era of enslavement, vibrant African American communities emerged in the Chesapeake Bay, defying the shackles of slavery (Whitman, 2007). These communities forged tight bonds, celebrated cultural traditions, and united against oppression. Rooted in their African heritage, diverse cultural expressions, from music to food, became vibrant symbols of resilience (Whitman, 2007). Yet, they persisted, drawing strength from their connection to the waterways and cultural heritage as they clung to their maritime legacy, shaping the region's fishing culture (Wennersten, 2007). Boldly resisting white authority, they demanded political rights, challenging the established order in the Chesapeake Bay region (Hutchins, 1941; Wennersten, 2007). By the outbreak of the Civil War in 1861, approximately 750,000 African Americans resided in the Chesapeake region, with nearly 600,000 still enslaved. Virginia accounted for 490,000 enslaved individuals, with only 50,000 being freed, while Maryland had 87,000 slaves. The District of Columbia and Delaware housed 3,000 and 1,800 slaves, respectively, with the latter witnessing a higher number of free Blacks surpassing those enslaved. President Abraham Lincoln's Emancipation Proclamation in 1863 liberated enslaved Africans in Confederate-held territories, and the subsequent ratification of the 13th Amendment in 1865 formally abolished slavery nationwide, including in the Chesapeake Region (Whitman, 2007; Kennedy, 2019).

In conclusion, despite the brutal conditions of enslavement, African Americans in the Chesapeake Bay region managed to maintain their cultural identities and pass them down through generations. Yet, amidst these challenges, they persevered and adapted. However, their legacy of resilience and cultural preservation is a testament to their strength and determination in the face of adversity, embodying the enduring spirit of a people who refused to be extinguished.

Post-emancipation to Jim Crow (1865 to 1945)

From 1865 to 1945, the period following emancipation in the Chesapeake Bay region marked a profound transition for African Americans, both socially and politically. The rise of African American watermen from the late 1800s to the 1940s is a story of resilience and adaptation amid the ubiquitous racial segregation and discrimination of the era. The abolition of slavery in 1865 brought a semblance of freedom to nearly 600,000 enslaved individuals, profoundly altering the region's socio-economic landscape (Berlin, 2003; Wennersten, 2007; Whitman, 2007), as laws and policies were created to not only eradicate slavery but provide support to newly Freed slaves with their transition into society as well. The Congressional Freedmen's Bureau, officially known as the "Bureau of Refugees, Freedmen, and Abandoned Lands," was established by Congressional vote on March 3, 1865, to assist formerly enslaved African Americans and other displaced persons, as well as to oversee the transition from slavery to freedom in the Southern states. Yet, the post-emancipation period was also fraught with tensions and challenges, as African Americans grappled with systemic racism and discrimination while asserting their agency in a rapidly changing society. Newfound liberties were swiftly overshadowed by the onset of the Jim Crow era, characterized by the enactment of stringent Black codes that sought to restrict the rights and freedoms of African Americans (Wesley, 1967; Wennersten, 2007). Despite the abolition of slavery in 1868, African Americans in the Chesapeake region faced another century of struggle before they could begin to enjoy rights that approached equality.

Culturally, the 13th Amendment's abolition of slavery may have empowered free Blacks, fostering a sense of agency and resistance against oppression (Chhaya et al., 2023). However, the combined power of free and formerly enslaved Blacks threatened the status quo, leading to backlash and discriminatory laws aimed at maintaining white supremacy (Bartlett, 1954). Despite the racial mistreatment experienced while working on the Bay, the post-emancipation era laid the groundwork for

African Americans' ongoing struggle for equality, highlighting the complexities of freedom and discrimination in American society. By 1870, the 14th Amendment granted African American men the right to vote and extended birthright citizenship, yet the promise of true freedom was continually undermined by systemic racism, including violent acts against Black homeowners and entrepreneurs (Kennedy, 2018; Whitman, 2007).

From the 1870s to the 1970s, African American watermen earned a living on the Chesapeake Bay as fishermen, oystermen, and owners of seafood processing plants. Overall, these significant milestones post-emancipation aided African Americans' transition from slavery to freedom, providing legal and societal recognition of their rights. It was crucial in supporting African Americans in their lawsuits for freedom during Southern Reconstruction, signifying a critical step toward legal and societal recognition of their rights (Dillon, 1990). During that time, the Chesapeake Bay region witnessed significant ecological and industrial transformations, shaping the region's socio-economic dynamics (Perez & Hirschman, 2009). The rise of the oyster industry in the late 19th century fueled economic growth, offering employment opportunities for African Americans in fishing, crabbing, and boat piloting (Wesley, 1967; Chhaya et al., 2023). However, discriminatory laws, such as the Oyster Police Law (1869-1870), aimed to protect Maryland's oyster beds and regulate the industry to manage the state's natural resources during this period (Johnson, Johnson, & Stanne, 2000). It granted exclusive harvesting rights to Maryland residents and established a system of oyster police to enforce the regulations. The law prohibited out-of-state oyster dredgers in Maryland, restricted non-residents from dredging for oysters in Maryland waters, and limited African Americans' access to lucrative fishing grounds (Johnson, Johnson, & Stanne, 2000; Wennersten, 2007). Ultimately, this law played a role in shaping Maryland's oyster industry, including the participation of African Americans.

Amidst the socio-political upheaval, African Americans on the Chesapeake Bay navigated diverse occupations, reflecting the region's economic complexity (Frank, 1990; Chhaya et al., 2023). Engaged primarily as watermen, they played pivotal roles in fishing, crabbing, and oystering despite facing discrimination and exploitation (Robbins, 2018). Additionally, they contributed to agriculture, maritime industries, and domestic service, leaving an indelible mark on the region's economy, culture, and social fabric (Miller, 2004; Conner, 2010). Despite systemic racism and discriminatory practices, African Americans' resilience and determination shaped their freedom and autonomy, amplifiing the enduring spirit of the community in the face of adversity.

Segregation and Civil Rights Movement: Rise of African American Watermen (the late 1950s to 1990s)

The Civil Rights Movement of the 1950s and 1960s was another pivotal era in American history, marking further shifts socially and culturally towards racial equality and justice across various sectors, including the Chesapeake Bay's commercial fishing industry. However, Chesapeake commercial fishing industries were still marked by pervasive racial injustices and discrimination that served as catalysts for notable progress in the recognition of African American rights within the industry. During this time, African Americans began to successfully contribute and financially prosper within the Bay's commercial fisheries, but it was not until the 1960s and '70s that significant ownership changes occurred, as African Americans began owning their own boats and, subsequently, their own oyster beds (Chhaya et al., 2023).

Amidst this hostile environment, African American watermen found solace and opportunity on the water, carving out livelihoods as skilled fishermen and watermen. Chesapeake Bay waterman are defined by their ability to adapt their fishing techniques with the seasons, transitioning from crabbing to oystering as conditions and regulations dictate. Black watermen on the Chesapeake have also demonstrated remarkable adaptability and expertise in the face of a changing environment and often negative social and economic hardships. Many have become licensed commercial boat captains through credentials issued by

the United States Coast Guard. Therefore, black watermen's deep-rooted connection to the Chesapeake Bay waterways underscores African Americans' multifaceted contributions to the region's economic and cultural heritage, illustrating their resilience and adaptability in the face of adversity.

The Jim Crow laws enforced racial segregation and discrimination in public facilities, including fishing piers, docks, and markets. These laws, which were prevalent throughout the Southern states, mandated separate facilities for African Americans and whites, effectively limiting the access of African American watermen to essential infrastructure and resources. Additionally, African American watermen often encountered discriminatory licensing and permit regulations imposed by state and federal agencies.

These regulations disproportionately restricted the issuance of fishing licenses and permits to African Americans, making it more challenging for them to participate in the commercial fishing industry. For example, in Maryland, African American watermen faced barriers to obtaining oyster harvesting licenses due to discriminatory licensing practices and quotas imposed by state authorities. Furthermore, federal government policies, such as the Interstate Shellfish Sanitation Conference (ISSC) regulations, imposed stringent health and safety standards on commercial fishing practices, which disproportionately affected African American watermen. These regulations often required expensive equipment upgrades and compliance measures that African American watermen, who faced economic disparities and limited access to resources, struggled to meet. As a result, many African American watermen could not fully comply with these regulations, further limiting their participation in Chesapeake Bay commercial fisheries. Despite these challenges, African American watermen and their allies mobilized and organized to demand equal rights and fair treatment within the industry. They participated in civil rights movements, protests, and advocacy efforts throughout the 1950s and 1960s to challenge discriminatory policies and practices.

Through their collective action and perseverance, African American watermen achieved significant milestones, such as desegregating fishing facilities, enforcing anti-discrimination laws, and increasing representation and leadership roles within fishing associations and regulatory bodies. The pivotal role of Black communities in advocating for change and engaging in protests cannot be overstated, as it catalyzed

the dismantling of the discriminatory practices that had marginalized Black fishermen for decades (Brown, 2020; Chhaya et al., 2023). Legal victories and landmark court cases, such as the Civil Rights Act of 1964 and subsequent civil rights legislation, provided additional critical legal protections against racial discrimination in the workplace, including the fishing industry. These legislative advancements helped to address some of the systemic injustices faced by African American watermen and paved the way for greater recognition of their rights and contributions within the industry. Simultaneously, additional employment avenues for African Americans in rural Maryland Eastern Shore communities broadened, strengthening their resilience and capacity.

African American watermen's struggles against racial injustices and discrimination catalyzed profound transformations within industries such as commercial fisheries. By advocating for racial justice, the movement prompted critical shifts in policies and practices that had long marginalized African American participation in the Chesapeake Bay's fishing industry. Through collective action, legal advocacy, and social movements, they made significant strides toward achieving fair treatment, equal opportunities, and respect for their contributions to the fishing industry. Despite the declining fisheries, particularly oysters, and the discriminatory mistreatment that African American watermen and fishermen experienced leading up to this time period, demonstrated an unwavering commitment to the industry as they adapted their fishing practices, career opportunities, and valued skills to provide a pathway to further economic independence and autonomy of their future decisions. This helped African Americans establish their cultural identity and community within the maritime industry.

However, the enduring legacy of Jim Crow laws and systemic racism continues to exert influence, albeit indirectly, casting a prolonged shadow over these advancements. Segregation policies, emblematic of this era, disproportionately impacted African Americans, restricting their access to essential public amenities. For instance, discriminatory practices such as segregated access to swimming pools may have indirectly influenced fewer Black individuals to pursue water-based livelihoods, including roles within the Chesapeake fishery. This disparity in swimming ability and the elevated risk of drowning among Black children compared to their white counterparts underscores the complex intersection of social factors and

environmental opportunities (Brown 2020). Within the Chesapeake Bay commercial fisheries domain, more specifically, African American watermen encountered systemic barriers and discriminatory practices that impeded their progress and hindered equitable treatment in the workplace. These injustices manifested in various forms, encompassing segregation in employment, unequal access to prime fishing grounds, wage disparities compared to their white counterparts for equivalent labor, and restricted avenues for career advancement (Mamary, 1994; Hesed & Paolisso, 2015; Hesed, 2016). Despite these systemic barriers, African American watermen and their communities exhibited remarkable resilience, preserving their cultural heritage and sustaining their economic livelihoods through fishing. Through their steadfast determination and adaptability, they not only reclaimed their rightful place within the fishing industry but also reaffirmed their enduring identity within the diverse tapestry of American society.

Ecologically, by 1974, the overharvesting of the Bay had precipitated a decline in the Chesapeake seafood industry. The repercussions of overharvesting in the Chesapeake Bay's ecological landscape marked a stark contrast to the millennia it took for nature to accumulate its bounty. In less than a century, this delicate balance was squandered, leading to a significant reduction in available resources and a decline in employment opportunities within the industry. Socially, during that same year, the Chesapeake Bay watershed was home to an estimated 8.2 million people and continued to escalate consistently throughout the era. According to O'Grady (2010), as cited in Suttor et al. (1968), the number of watermen employed on the Chesapeake Bay stood at 18,996 in 1965, representing a 30 percent increase from 1940.

In contrast, the rest of the U.S. experienced a mere 3 percent growth in watermen. However, these advancements were not without their challenges. The Black owners faced governmental restrictions on where they could fish and harvest, indicating that the path toward equality in the fisheries sector was fraught.

Modern Times (2000s to the present)

The Chesapeake Bay commercial fishing industry has undergone significant transformations in recent decades, marked by increased mechanization and regulatory measures (Kennedy, 2019). However, African Americans continue to play a vital role in the industry despite facing persistent challenges such as economic disparities, limited access to resources, and environmental concerns (Chhaya et al., 2023). Efforts are ongoing to support and preserve the rich traditions and cultural heritage of African American watermen in the region, with various organizations and initiatives advocating for fair access to fishing resources, promoting sustainable fishing practices, and addressing historical and contemporary injustices faced by African Americans in the Chesapeake Bay commercial fisheries. To understand the ongoing decline of the fishing industry, it is crucial to have a comprehensive understanding of the recent historical ecology of the Bay. Implementing fisheries management plans to restore and maintain fish stocks has led to fluctuations in fishing quotas and restrictions on certain species. For example, the decline of iconic species like blue crabs and oysters due to overfishing, habitat loss, and environmental degradation has prompted the adoption of stricter regulations to protect these vital resources. These changes have significantly impacted the region's economic and social/cultural dynamics, particularly for African American watermen who have faced unique challenges in the industry.

While efforts to conserve and manage the blue crab fishery have been implemented, including the establishment of harvest limits and regulations on minimum size requirements, challenges such as habitat degradation and predation continue to impact the sustainability of the population. Similarly, the oyster population in the Chesapeake Bay has faced significant declines, with historical overharvesting, disease outbreaks, and habitat loss contributing to the depletion of this once-thriving resource (Figure 1). Fisheries data indicate efforts to restore oyster populations through habitat restoration projects,

aquaculture initiatives, and sustainable harvesting practices. However, the recovery of the oyster population remains a complex and ongoing challenge, requiring continued conservation efforts and collaborative management strategies (Lipcius et al., 2019).

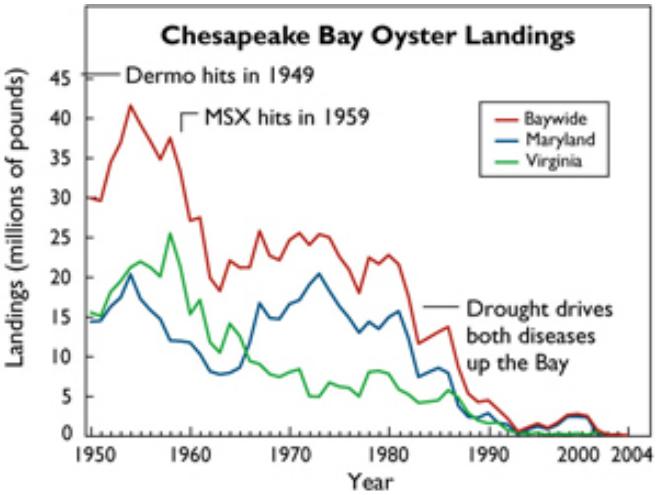

Figure 1: The impact of Dermo in the Chesapeake Bay was noticeable earlier than in Maryland, but its significant effects were not fully recognized until several years after MSX had already struck. This coincided with a period of drought, during which both diseases, thriving in higher salinities, spread throughout the region, ultimately devastating what was once the Chesapeake Bay's most valuable fishery. Source: NOAA Fisheries Annual Commercial Landings Statistics Database

In addition to species-specific challenges, the Chesapeake Bay commercial fishing industry has grappled with broader environmental issues, such as climate change, which has led to shifts in species distribution, elevated water temperatures, and increased incidences of extreme weather events (Kennedy, 2018). These environmental changes have implications for fishery management and the livelihoods of those dependent on the Bay's resources. Socio-economic factors also play a significant role in shaping the Chesapeake Bay commercial fishing industry. Economic pressures, market demands, and competition from imported seafood have influenced fishing practices and the financial viability of commercial fishing operations.

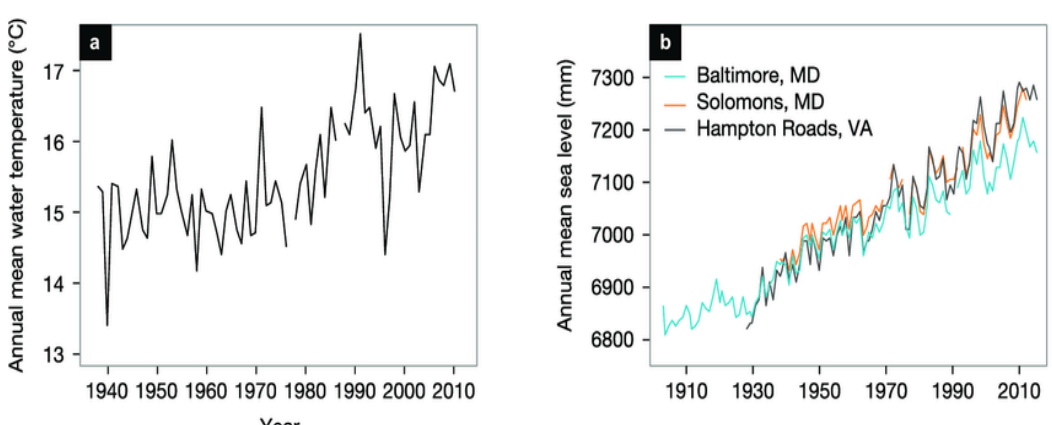

Figure 2: (a) The average annual water temperature at the University of Maryland's Solomons Laboratory (1937–2010; data from Kaushal et al. 2010). (b) The

sea-level rise at three Chesapeake Bay locations (1910–2015; from Holgate et al.2013, PSMSL 2016). Abbreviations: °C, degrees Celsius; mm, millimeters. Source: Orth et al. 2017

The Chesapeake Bay region significantly contributes to the history and culture of the United States. The ecological, economic, and social/cultural dynamics of the Chesapeake Bay have impacted the involvement of African Americans in its fisheries. As W. Jeffrey Bolster notes in his book, "The Mortal Sea: Fishing the Atlantic in the Age of Sail," the Chesapeake Bay's history is characterized by dramatic ecological changes while also being a story of human endeavors and the social, cultural, and political contexts in which those endeavors occurred (Bolster, 2012, p. 7). The complex interplay of regulatory, environmental, socio-economic, and cultural factors has impacted the Chesapeake Bay's commercial fishing industry. Understanding these factors is essential in ensuring the long-term health and viability of the region's fisheries.

From an anthropocentric perspective, the Chesapeake Bay commercial fishing industry faces numerous social and cultural challenges, including historical injustices, diversity and inclusion efforts, and preserving the cultural heritage of Chesapeake Bay watermen (Dowling, 2018). Furthermore, the region has also experienced gentrification, which includes changes in demographics, property values, and community dynamics (Zukin, 1987; Thompson et al., 2016; Dowling, 2018). Gentrification began to gain momentum in the late 20th century, especially in areas surrounding major cities like Baltimore and Washington, D.C. (Zukin, 1987; Rotenstein, 2018; Thompson et al., 2016). Although the timeline can vary depending on specific locations within the Chesapeake Bay watershed, gentrification typically involves the influx of more affluent residents into previously lower-income neighborhoods (Rotenstein, 2018; Atkinson, 1997). These demographic shifts have been substantial, mirroring trends in other coastal areas reliant on natural resources. Urban migration, notably exacerbated by the COVID-19 pandemic in 2020, is attributed to have led to significant population movements, with individuals relocating from larger cities to smaller towns or rural areas. Collectively, these events have contributed to a demographic transition, with

once-historic Black fishing communities now notably inhabited by migrant, retired, affluent white residents.

Overall, African Americans in the commercial fishing industry and the evolution of the Chesapeake watershed have been historically interconnected since the enslavement era through the continuation of significant contributions from the demographic. Despite African American communities' challenges, their contributions to the Chesapeake Bay's evolution and development have been immense. There has been a lack of recognition regarding the enduring impact of African Americans in various industries and fields (Cecelski, 2012, p. 26), including marine sciences and the maritime industry in coastal communities similar to Chesapeake Bay. Thus, it is critical to continue to explore and recognize the experiences and contributions of African American communities to ensure that their legacies are preserved and celebrated. The decline of African American participation in the fisheries industry is a concerning indicator that the maritime culture of the Bay region, once at the heart of the Bay's legacy, may no longer hold the same significance as coastal communities continue to evolve. As a result of this lack of public recognition and education, much of the African American maritime experience and contributions to the critical historical timeline of the watershed remain unknown.

Researchers have devoted significant efforts to analyzing the range of ecological and environmental factors challenging the Chesapeake Bay's commercial fishing industry, with the aim of developing practical solutions that can help sustain this vital industry and its resources for the future. Nevertheless, efforts are being made to understand these factors better and develop practical solutions to maintain this essential industry for generations. There has been a notable increase in academic studies exploring the various factors affecting the Chesapeake Bay's commercial fishing industry. The insights gained from academic research are essential in informing policymakers and industry stakeholders, and

they offer a glimmer of hope for the future of the Chesapeake Bay's commercial fishing industry (Foley et al., 2010; Gray et al., 2016).

Through a comprehensive investigation, my master's research project aims to unveil the evolution of African American participation in the maritime industry of the Chesapeake Bay over the last 50 years. This work highlights a recognized need for multicultural structures to foster equitable opportunities and stewardship, particularly for marginalized demographics. This thesis also advocates for implementing diversity initiatives to ensure resource sustainability and inclusive participation, fostering a culture of respect and belonging by documenting the historical significance of African American contributions to Chesapeake Bay commercial fisheries. This research comprehensively examines the factors that have shaped the Chesapeake Bay and influenced African American engagement in its commercial fisheries. Employing a socio-ecological approach and drawing on oral histories, the research seeks to illuminate African Americans' contributions, achievements, and challenges in the industry, underscoring the need to thoroughly evaluate their role (Mann et al., 2013). Structured around pivotal aspects, the study delves into the ecological, economic, and socio-cultural dynamics impacting African American involvement in Chesapeake Bay fisheries. In pursuit of these objectives, my thesis research explores various sources to elucidate the ecological, cultural, political, and social forces that have shaped the Chesapeake Bay. By examining the patterns of decline in the commercial fishing industry through the lens of Black watermen's experiences, my study aims to unveil the historical timelines, traditional ecological knowledge, and industry contributions of African American participation in Chesapeake Bay fisheries from a social science perspective

Cultural and perceptual factors play a significant role in influencing engagement with new fishing practices among African Americans. Access to resources is considered one of the most critical factors affecting African American participation in aquaculture and restoration efforts. Historical ties to

other industries or livelihoods, coupled with unfamiliarity or perceptions of risk associated with aquaculture, may contribute to hesitancy in participation within this evolving industry. African American communities have faced systemic challenges in accessing essential resources such as capital, land, and technology necessary to initiate and sustain aquaculture operations. The discourse concerning resource access challenges for African Americans within the Chesapeake Bay commercial fishing industry encompasses multifaceted issues spanning financial limitations, land tenure insecurities, regulatory hurdles, and the impact of gentrification on historic Black fishing communities. Moreover, it highlights the significance of educational and training opportunities in facilitating meaningful engagement and the role of systemic inequities in perpetuating disparities.

The limited access to financial resources and secure land tenure impedes the ability of African Americans to participate meaningfully in the industry. Additionally, regulatory and permitting challenges further exacerbate barriers to entry, disproportionately affecting smaller-scale operators and those lacking prior industry experience. Gentrification compounds these challenges by transforming urban, low-income communities and impacting the preservation efforts of historic Black fishing communities (Gale, 1991; Zukin, 1987). Systemic inequities and historical disparities in access to economic opportunities, land ownership, and environmental resources are fundamental factors contributing to the exclusion of African Americans from emerging practices within the Chesapeake Bay commercial fishing industry. While statistics may not explicitly demonstrate this disparity, the absence of Black-owned oyster farms within Maryland and Virginia underscores the issue.

In conclusion, the Chesapeake Bay commercial fishing industry has been changing, and it's essential to understand how these changes have impacted African Americans living and working in this region. For example, the introduction and growth of Chesapeake aquaculture over the last decade raises questions when contrasted with the low participation of African Americans in this industry. What

underlying factors contribute to this lack of involvement in a growing industry, and is this observed phenomenon an indicator of a more significant decline in fishery participation among African American watermen?

This study investigates the reasons behind African American commercial watermen's decline in the Chesapeake Bay's fishing industry. Despite their crucial and long-standing contributions, their presence has decreased significantly. The study seeks to identify the factors underlying this decline, assess its impact on the future of African American engagement in the maritime domain, and determine how the absence of Black watermen may lead to the erosion of the historical significance of this community. Ultimately, the goal is to preserve the Chesapeake Bay's cultural heritage and economic vitality for future generations.

Chapter 2: Methodology

The history of Black watermen in the Chesapeake Bay region is underrepresented in the literature, which has resulted in a lack of documentation of significant stories, individuals, businesses, and communities contributing to Black maritime experiences and contributions. Recently, there has been a burgeoning interest in emphasizing, documenting, and systematically acknowledging Black maritime history. This surge in interest has catalyzed a thorough examination of how African Americans have profoundly shaped the historical narrative of the Chesapeake Bay's commercial fishing industry and the region's broader maritime and socio-ecological legacies.

Building on this, the research presented here used in-depth interviews with African American watermen, historians, and community members of historic Black fishing communities in the Chesapeake Bay region. I collected and used qualitative and quantitative data to extensively investigate social-ecological factors (ecological, social, and cultural) associated with African Americans' maritime

history over the past 50 years, including their participation, roles, and notable accomplishments within the Chesapeake Bay's commercial fishing industry. Existing publications and related literature also formed a critical part of this research, providing a broader context for understanding African American watermen's historical and contemporary experiences in Chesapeake Bay fisheries. The documentation of oral histories sheds light on the significant contributions made by the community within the social-ecological systems of Chesapeake Bay. Finally, historical and contemporary fisheries data was analyzed and incorporated throughout the qualitative data to help understand the role of the Bay in creating challenges and shaping decisions made by African Americans to participate in fishing efforts.

The methodology of this study was designed to gather cultural insights, historical chronologies, and nuanced perspectives to understand the impediments and prospects confronting African American engagement in the fishing industry. Below is a detailed description of the various methods used to capture and analyze relevant data.

Study Participants and Historic Chesapeake Black Fishing Communities

Purposive sampling was employed to select participants based on their profound personal and professional affiliations with my research topic. I carefully selected thirteen individuals with extensive experiences and diverse perspectives on African American engagement with Chesapeake commercial fisheries and historic Black fishing communities in the Chesapeake Bay, including Chesapeake Bay historians (n=3), current or retired African American licensed commercial boat captains in Maryland and Virginia (n=8), and African American community members from historic Black fishing communities within Maryland (n=2) (Table 1, Figure 1, and Figure 2).

It is unclear how many African American commercial watermen and boat captains exist, as no official record has been kept (Mamary, 1994; Chhaya et al., 2023). The decline of African American involvement in the

industry has only made it harder to gather historical demographic data. I have estimated the number of African Americans in the commercial fishing industry based on historical accounts from well-known Black watermen. Public sources of demographic information were minimal, as government entities and other agencies regulating the industry do not collect this information. Eight current and retired African American watermen were interviewed about the historical relationship between African Americans and the Chesapeake Bay's commercial fishing industry. These watermen had deep-rooted familial ties and connections to the study communities, provided invaluable insights into their experiences, and represented a lineage of small-scale watermen with deep-rooted familial ties to the region's maritime history. To ensure an accurate representation of their first-hand accounts, watermen participants were asked about their preference towards categorizing terminology such as 'Black or African American watermen' and 'Black or African commercial boat captains.' All eight expressed neutrality to the interchangeability of these terms.

Three historians specializing in Chesapeake Bay were involved in this research to accurately evaluate the timeline and contributions of African Americans to the Bay's maritime heritage. These historians were chosen based on their experience, education, and work in relevant publications, films, projects, and professional achievements within the Chesapeake fisheries space. Although they had overlapping perspectives, each historian brought a unique viewpoint that provided a detailed context of Chesapeake Bay's history. All interview participants in this study were residents of different Chesapeake Bay fishing communities and remained active members of their respective communities.

Community members' perspectives were also critical to represent. For this purpose, Dennis DeShields and Edzel Turner, both from Bellevue, Maryland, were specifically chosen to provide the community member perspective. They were selected because of their significant and active roles in preserving and promoting the current status of this historic Black fishing community over the past few decades. However, these study participants were not members of the Chesapeake watermen community or

maritime historians studying African American historical contributions to Bay heritage. As community members, Mr. DeShields and Mr. Turner provided a local history perspective.

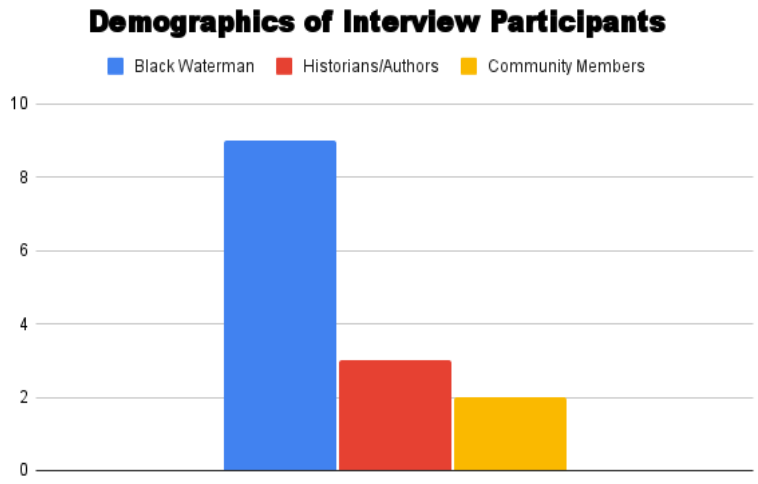

Figure 3. Study participants included Chesapeake Bay historians, current or retired African American/Black licensed commercial boat captains in Maryland and Virginia, and African American community members.

O'Grady (2010) defines a "fishing community" as a group of people engaged in fishing or processing fishery resources for their social and financial needs. This definition characterizes the historical Black fishing communities studied in this research, including Kent Narrows, Maryland, Bellevue, Maryland, and Hobson Village, Virginia. These towns were selected as case studies to examine the interconnected relationships among ecological, social, cultural, and economic factors driving the functioning and well-being of these historically Black fishing communities over time. Greater focus was placed on these historic Black fishing communities as they have been profoundly affected by gentrification and or significant demographic changes. Demographic shifts may have applied cultural, social, and economic pressure on these communities to force African Americans to migrate out of the fishing communities or seek other work lines. By highlighting the interconnective presence of social-ecological factorial shifts within the study communities, these dimensions strengthen my argument and serve as visual indicators of the factors within once-active Black fishing communities over time. Understanding the interplay between these factors strengthens insights into the ongoing impact of

demographic changes on the African American presence in Chesapeake Bay fisheries and the broader challenges facing the region's cultural heritage restoration efforts.

Table 1. Study participants listed by occupation, experience/connection to the industry, and community where they reside within the Chesapeake maritime industry.

Participant	Occupation	Experience/Connection	Years Active in Industry	Community
Capt. Lamont Wright	Current Captain/Watermen	2nd generation-Industry/Community Member	*1973 - present (51 years)	Kent Narrows, MD
Capt. Michael McQueen	Current Captain/Watermen	2nd generation-Industry/Community Member	1973 - present (18 years)	Solomons Island, MD
Capt. Buck Lynch	Current Captain/Watermen	4th generation Industry/Community Member	1971 - present (53 years)	Kent Narrows, MD
Capt. Tyrone Meredith	Current Captain/Watermen	4th generation watermen-Industry/Community Member	1977 - present (47 years)	Kent Narrows, MD
Capt. Montro Wright	Current Captain/Watermen	Industry/Community Member	1957 - present (67 years)	Kent Narrows, MD
Capt. Mary Hill	Current Captain/Watermen	7th generation Industry/Community Member	1999 - present (25 years)	Hudson Village, VA
Capt. Llyod Price Sr.	Current Captain/Watermen	2nd generation-Industry/Community Member	1971 - present (53 years)	Kent Narrows, MD
Capt. Lloyd Price Jr.	Current Captain/Watermen	3rd generation-Industry/Community Member	Late 1990s - present (20+ years)	Kent Narrows, MD
Rona Kobell	Journalist	Chesapeake Bay Historian	2004 - present (20 years)	Western Shore, Maryland
Kate Livie	Author/Community Member	Chesapeake Bay Historian	2005 - present (12 years)	Chestertown, MD
Vincent O. Leggett	Nonprofit Founder/Author	Chesapeake Bay Historian	1994 - present (40 years)	Annapolis, MD

Participant	Occupation	Experience/Connection	Years Active in Industry	Community
Dennis DeShields	Doctor	4th generation-Family/Community Member	1996 - present (28 years)	Bellevue, MD
Edzel Turner	Industry/Watermen Family Member	4th generation-Current Community Member	1958-1970 (12+ years)	Bellevue, MD

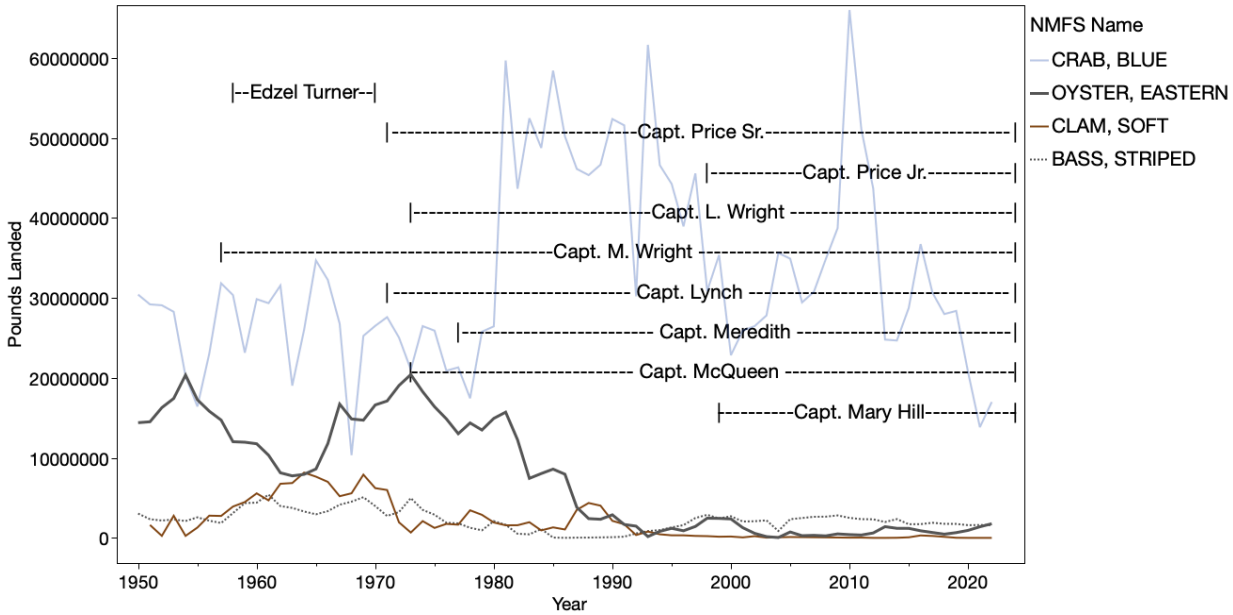

Figure 2. Landings of commercially most valuable fisheries species in Maryland from 1950 to 2022 with study participant years of activity (Source NOAA Fisheries)

Semi-Structured Interviews and Data Analysis: Codes and Themes

In-depth interviews with the study participants were conducted over a period of 17 months to provide valuable cultural insights, historical chronologies, and nuanced perspectives regarding African American engagement in Chesapeake Bay's commercial fishing industry. This approach created a safe and authentic space for participants, which helped fill the gap of firsthand accounts from African American individuals about the maritime history of the Chesapeake Bay region.

Interview questions were designed to provide a comprehensive view of the cultural, historical, and social dynamics of the Chesapeake Bay. The qualitative data gathered in these oral history narratives also offered insights into their occupation, age, and experiences in the commercial fishing industry. The interview questions and research design encouraged open-ended discussions and allowed potential themes to emerge (Bernard, 2006/2017). These interviews were conducted with selected study participants through phone calls and video chats. The audio files of participant interviews were uploaded and transcribed through Otter.ai, an online transcription service that converts speech into written text. Once transcribed, interviews were cleaned in preparation for text analysis by removing repeated and misspelled words to ensure that participants' shared experiences, knowledge, and perspectives would be concisely and accurately represented.

Interview transcriptions were analyzed on Dedoose (2023) to determine how frequently all thirteen study participants discussed each predetermined code/theme throughout their shared topic perspectives, experiences, and concerns. Predetermined codes were used to analyze interview texts. The thematic codes came directly from the original interview questions and were critical themes of interest for this study. Table 2 lists the thematic codes and definitions used to identify relevant text during analysis. My text analysis aimed to uncover critical themes related to the decline of Black watermen, boat captains, and African Americans in the industry.

Table 2. Codes/themes used to determine common perspectives and discussion patterns among study participants.

Cultural Identity to Loss of Cultural Heritage and Traditional Ecological Knowledge

The decline of African Americans in the fishing industry poses a risk of losing valuable traditional knowledge, fishing techniques, and cultural practices associated with the industry, including the loss of traditional ecological knowledge (TEK) and motivation for career involvement. This loss affects not only the African American communities but also the broader cultural fabric of the region (Lenzerini, 2011; Fitzhugh et al., 2019). Therefore, it is crucial to recognize the cultural significance of the fishing industry for African Americans and support initiatives that aim to preserve traditional knowledge, fishing techniques, and cultural practices to sustainably manage the region's fisheries and ecological health of the Chesapeake Bay (Cruikshank, 2014; Thornton et al., 2010; Turner et al., 2013).
Black Watermen's Decision-making and Societal Engagement
African American ideas and decision-making in leaving the fishing industry sometime in the timeline (past, present & future). The decline of African Americans in the fishing industry has contributed to economic disparities within the community. As fishing is a significant economic activity in the region, reduced representation in the industry has meant reduced access to employment, business opportunities, and income for African American families. This has perpetuated existing racial and economic inequalities.
Changing Demographics
The decline of African Americans in the fishing industry has contributed to the evolving demographics in waterfront communities. Some communities may have experienced an exodus of younger generations seeking alternative career paths or moving away for better opportunities. This shift in demographics can have implications for community cohesion, social networks, and the overall cultural landscape of these areas.
Common Impacts on Waterman Livelihood (ecological, social, and cultural)
The overall occupational challenges and barriers that all watermen, no matter racial background, face working within the industry
Limited Representation and Participation
With fewer African Americans involved in the Chesapeake Bay fishing industry, their perspectives and experiences are less represented in decision-making processes related to fisheries management, conservation policies, and resource allocation. This lack of representation hinders efforts to address the unique challenges and concerns faced by African American fishing communities.

Fisheries Data

This study also aimed to account for commercial landings related to the fishing behavior of watermen in Maryland. I explored the relationship between the ecological fluctuations of Chesapeake Bay and the social-ecological dimensions of coastal communities; I aimed to demonstrate the reciprocal relationship between environmental health and community well-being and highlight the interconnectedness of coastal community resilience and adaptability. The primary objective was to better understand the complex interplay between humans and the environment and identify potential avenues for promoting equitable development.

To achieve these objectives, I analyzed oyster license purchases, known as surcharges, available from the Maryland Department of Natural Resources (DNR) from 1994 to 2022. Surcharges are fees of $300 that watermen must pay each season to harvest oysters in Maryland commercially, which is subsequently used by DNR to replenish wild stocks by planting oyster seed and shell in fishing grounds (Figure 6). As the number of licenses made available by the State has remained constant each year, surcharge fees provide an effective tool for gauging fishing efforts. Oyster landing data from the wild fisheries were examined, along with the DNR's 2022 Fall Oyster Survey, precisely their Biomass Index metric, which evaluates the overall health of the Bay's oyster population by accounting for recruitment, individual growth, natural mortality, and harvesting. I examined these data to better understand if a relationship between abundance and fishing effort existed to explain how resource level influence industry participation. I also examined the historic fisheries landings data (1950-2022) to better understand the resources that were available and their value when industry members that I interviewed participated in fishing (Figure 5). The statistical analyses of fisheries data used JMP Pro 15 (v 15.2.0). 15.2.

Chapter 3: Results/Findings

This research delves into the multifaceted interplay of social-ecological factors that have shaped the involvement of African Americans in the commercial fishing industry of Chesapeake Bay from the 1950s to the present day. The investigation recognizes that environmental dynamics such as climate change, overfishing, population growth, and market fluctuations significantly influence the anthropogenic factors contributing to the social vulnerability of coastal communities along the watershed (Poe et al., 2013; Silva et al., 2019; Karakasnaki, 2023). This study used purposive sampling to collect oral histories from thirteen key informants to garner valuable cultural insights, historical archives, and nuanced perspectives on African American's cultural and maritime legacy in the Chesapeake Bay's commercial fishing industry.

The results presented here describe the complex intersection of social and environmental factors that have contributed to the decline of African Americans in the Chesapeake Bay commercial fishing industry, thereby offering a more comprehensive perspective on their historic participation in the maritime legacy. Through thematic analysis of the oral histories and comparison with historical landing data from the participants' primary fisheries, key themes have been identified, revealing the influential role of social, cultural, and ecological factors governing their involvement in commercial fishing in the Bay.

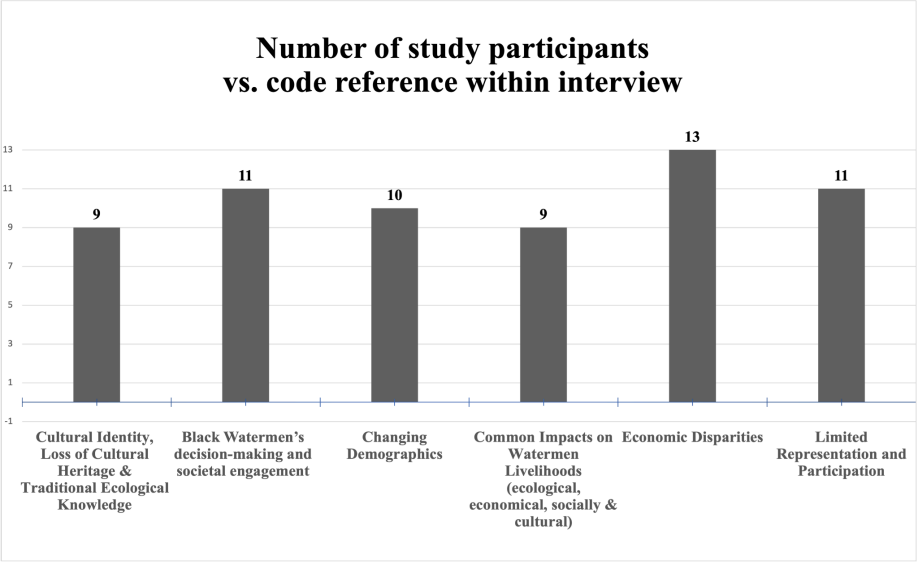

Figure 4: The number of study participants who mentioned each code/theme during their interview.

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Cultural Identity to Loss of Cultural Heritage & Traditional Ecological Knowledge

"Black entrepreneurs were instrumental in these businesses…if you combine all of those things, it's not really a surprise that there was such excellence in the seafood industry, because that really combined, the cooking, the processing, the fishing, the gathering, the navigating, everything. And so, in the 1800s, many of the best oyster men in the bay were Black, and a lot of Black men, when permitted, would own oyster saloons that were extremely popular. So it's been a legacy. It's a legacy that not many people know about and talk about."

-Rona Kobell

Throughout their participation, Black watermen and historic Black fishing communities on the Chesapeake Bay were able to cultivate a strong economic viability and livelihood from the commercial fishing industry and foster a livelihood that not only supported their individual families, but establish a successful workforce and social network within their historic Black fishing communities as well. The success of Black-owned and -residing fishing communities has led to development of multiple businesses and individuals within the industry. Study participants emphasized the significance of historic Black-owned restaurants, oyster saloons, seafood businesses/operations, and influential community members within the industry, alongside their maritime occupations, as integral to African American success and participation. Within interviews, participant's focused on the fact that African Americans overall proximity to the shoreline and participation were said to be some of the key factors with their maritime legacy that always cultivated a space where their culture, values, and traditions could thrive. However, participants added that as Black watermen began to expand their maritime success into their own businesses, as

they finally had more opportunities to take control of their own economic growth within the industry. Additionally, as these values became ingrained in Black fishing communities, Black owned and operated businesses contributed to African American's strong sense of identity and cultural heritage. This critical aspect of the African American experience in the Chesapeake Bay's maritime sectors—not only had been vital to their involvement within the industry's labor force, but Black watermen were pioneers in owning and operating businesses that served as cornerstones of the community.

Cultural identity was another theme that emerged as an essential ascept among participants, and it was suggested that it was instrumental in the success of African Americans in Chesapeake Bay coastal communities. Participants in this study also expressed their deep-seated connection between African American cultural identity and a profound sense of belonging along the Bay's waters (Figure 2). As Black owned fisheries businesses grew and Black watermen could invest in their Black fishing communities as a result of their success, this quickly cultivated a strong cultural heritage that was preserved, practiced, and passed down through generations. Some participants even stated that they felt a spiratual connection when working on the water, as they occupation strongly represented a "divine calling" or "divine gift" that was the foundation of African American's maritime legacy on the Chesapeake. Study participants displayed pride in their historical communities and family maritime legacies which stems from a strong sense of self-sufficiency, independence, and a clear cultural identity, integral to the community's rich history and traditions.

> **"It made us self-sufficient and independent. And we had a sense of identity. We had a sense of our culture. We knew our heritage, and when we practiced our culture."**

-

Mary Hill

Mary Hill's perspective demonstrates the Chesapeake Bay commercial fisheries' integral role in shaping and sustaining African Americans' cultural and social factors as they developed and operated within their communities. This industry has played a significant role in their livelihood within coastal communities along the Bay's shorelines, particularly for those African American community members that rely heavily on its fisheries resources and are involved in various sectors of the industry's supply chain. They provided a vivid portrayal of their maritime legacy from a holistic perspective within the commercial fishing industry, illustrating their sense of belonging on the Bay as a sociocultural connection of unity, mutual support, and a tradition of discipline that has been a cornerstone of Black fishing communities throughout history.

Within Mary's historic Black fishing community, Hobson Village in Suffolk, VA, Hill's family worked their 200-acre ancestral oyster grounds that provided a livelihood and served as a cradle of the village's cultural identity and heritage. Hill's perspective gives us a glimpse into the deep pride that Black fishing communities like Hobson Village hold.

Numerous participants passionately recounted narratives of African American's cultural heritage and maritime legacy on the Bay based on conversations or stories they were passed down from their family or community elders, uncovering a strong presence of the profound value, wisdom, and cultural resonance inherent in preserving and honoring ancestral knowledge of the waterways and the fisheries. The preservation of generational knowledge emerged as a pivotal theme, underscored by its instrumental role in shaping participants' maritime experiences and

career trajectories. Traditional Ecological Knowledge (TEK) emerged as a cornerstone for the engagement of successive generations within the Chesapeake commercial fisheries.

Participants emphasized the indispensable role of Black maritime TEK, encompassing a diverse array of skills such as oyster shucking, boat building, navigation and seamanship, fish net making, and dockside labor. These skills, traditionally transmitted across generations, embody a rich tapestry of expertise and heritage that is at risk of erasure amid the dynamic shifts observed in historic Black maritime communities. It serves as a conduit for maintaining cultural identity and fostering a sense of belonging among African American communities in this domain.

> **"Our history is a roadside plaque. Here lies such and such, but we don't have anything that we can touch."**
>
> **- Dennis DeShields**

Study participant Dennis DeShields, a Bellevue community member who grew up within the town with his family, is now a community activist in preserving the once prominent Black fishing hub. Dennis, and other participants noted that even though these anecdotes illuminated Black watermen's past maritime achievements and highlighted the enduring relevance of traditional ecological perspectives and practices, the severe absence of documented Black maritime culture across various mediums, including museums, monuments, archives, memorabilia, honorable stattues, plaques, or commemorative installations shows a clear decline of TEK and cultural heritage of Black watermen. Additionally, other participants noted there are no historic community buildings, archival documentation, and that celebrate the pivotal roles of African American coastal communities. From all of thirteen study participants, they passionately expressed

frustration at some point in the interview when discussing the lack of public-facing Black maritime history.

"Overall, the rich history of Black watermen working on old workboats and charter boats from crabbing to fishing, and oystering, we were more so the backbone of the seafood industry. And we are, well, were more so back then, the backbone of basically black households, it was always a strong person that would go fishing, crabbing oysters and to feed their families. That was the background, we set the foundation, we set the trends. And now that the industry is changing and becoming more diverse, that's being put on the back burner. Not being emphasized as much."

-Capt. Mike McQueen

There was a shared concern among all study participants about the loss and decline of multigenerational TEK, and the negative impact it ultimately as on African Americans cultural identity and legacy. Specifically, they discussed that as the older generations of African American watermen and fisherfolk retire or pass away may be accompanied by a breakdown of multigenerational TEK transmission.

"You know, someone called it benign neglect, but I don't think it's so benign. It's neglect. I mean, it failed to recognize an important piece of our history. It's Black history, but it's American history. And I mean, that's what you see over and over again. Is just kind of the failure to acknowledge these contributions, which is why your work is so important."

-Rona Kobell

Moreover, study participants like Rona Kobell, distinctively expressed profound disappointment regarding the lack of inclusivity and equitable representation of Black maritime narratives in historical accounts. These omissions prompted reflection on the broader societal shortcomings in integrating diverse perspectives into historical narratives.

Black Watermen's Decision-making: Livelihood, Economic Disparities & Societal Engagement

Interviewees identified several factors that influenced their decision to enter, stay, or leave the commercial fishing industry. Decision-making process within the watermen and maritime profession is a vital component of the occupational experience and is considered a social factor within this code and its themes. The majority of study participants focused on Black watermen's experiences, decisions, and motivations, and the factors that contributed and influenced their decision-making process throughout their career.

> **"But as the seafood industry became more competitive, you had to have a specific type of vessel. Once you needed an inboard engine to be competitive, once you needed a deadrise, to be competitive, it starts to become more and more challenging, there's more and more obstacles placed in front of you, but you're not getting being given more advantages that, allow you to have the same opportunities as, say, a white Waterman in the same situation."**
>
> **-Kate Livie**

Generational occupations were a theme discussed with participant interviews regarding historical Black occupations, trades, and skills that made them viable within Chesapeake Bay commercial fisheries for so long. Notably, some watermen trace their entrepreneurial endeavors

back to the 1950s, exemplifying a historical legacy of self-determination within the Black maritime community.

Imani Black (IB):

Okay, that was the most lucrative fisheries?

Captain Montro Wright (CMW):

"[Crabs and oysters] was the most resources that we had at that time. And then as the clams got scarce, and I went on and started carrying fishing parties. I started in 1972. And carrying parties in the summer. And I stopped for about 15 years, and I just harvest softshell clams. And in 1994, that's when I bought the boat."

Captain Meredith's decision to become his own boss illustrates the factors that go into the decision-making process as a Black waterman. Transitioning from fishing commercially to owning a charter boat businesses may represent an act of liberation and independence within the Chesapeake fishing industry. The other Black watermen participants recalled transitioning from traditional maritime operations to solely chartering boats, finding it more lucrative and stable instead of the racial and despite the economic barriers like wage disparities, they faced working within the industry.

"Running the charter boat is a lot more lucrative. You know, more money. And it doesn't depend on, like oystering, if you don't catch any oysters that day. That weather could be bad, and don't catch many, it depends on what you catch. And fishing is more lucrative as you go on. Once you charter your boat, and people come to you, even if they don't catch a fish, you still get paid. You know, you hope they catch something, but it's not always guaranteed. …being your own boss. That's the

main reason for me. Because I worked for myself. I don't feel like going, I don't have to go."

-Captain Tyrone Meredith

This factor arose when participant discussed the significance of adaptation within historic and modern-day Black watermen's decision-making processwithin the industry, as African Americans obtained more opportunities to expand their economic freedom. Adaptation within the watermen occupation is vital for livelihood longevity and economic survival as ecological, social and economic factors shift over time, such as low catch per unit effor that can destabelize local markets, essential equipment needed to harvest various fisheries, and modifying strategies, methods, or behaviors to remain productive and effective in the face of shifting social, cultural, or technological trends. Black watermen participants brought up the need for occupation diversification, since the importance of working multiple jobs in other sectors at various times throughout their watermen's careers to supplement their income when the Chesapeake Bay fisheries as certain species were not as productive within particularly seasons or in population numbers over all. This strategy also including leaving the industry altogether for periods of time as some Black watermen participants decided to pursue other careers to remain fiancially stable until the fisheries picked back up or rebounded.

"Oh a period of years, it's like oystering used to go round like in a cycle. Like every 15-20 years, oysters would be plenty. And then would get right on down to where you couldn't totally make a living, you'd almost have to get another job. And in four or five years, they will come back again. And actually, they would do it every 20 years, 15-20 years. That'd be good. And the clams, soft shell clams, sometimes they would leave for 10 years

and then it would come back and they would come back they would last until you have a hot spell. And they would disappear again. So it would go up and down. But the main resources around would be the oysters and the clams."

-Captain Montro Wright

Some participants highlighted the ongoing racial discrimination and systemic barriers that are still faced by Black watermen today. Historian study participants frequently mentioned the Jim Crow-era laws and the prohibition against Black watermen's participation within the industry. Black watermen were less likely to obtain loans and financial support to grow their capacity and remain competitive in the fishery. Their experiences strongly correlate to the historical injustices mentioned by some historian participants dating back to before the 1950s.

> **"So I think the biggest one is the prohibition against black captains. And that's, like, that's a 19th century Jim Crow era law. And it's post Civil War. And the idea is you want to give, you want to keep black labor as black labor. And so you could work on the water and you could be crew, but it was actually illegal to be a black captain....If you can't be a black captain, then what so you're only ever allowed to work for somebody else? You can only be self-employed? Some of the financial prohibitions too, unless [black watermen] had a co-signatory who was white, you couldn't get a loan, most banks wouldn't give you a loan, so you didn't have access to capital, and you didn't have access to the opportunity in the first place."**

-Kate Livie

Laws and policies imposing restrictions on Black watermen prevented them from achieving the same level of success and economic independence as their white counterparts. As Black watermen were unable to be boat captains of their own vessels and were prohibited from leaving their home waters due to slave tracking purposes, they could not work on the water in any capacity during that time. These policies were a social factor that impaired Black watermen participation within the fishing industry.

> **"Well, there were Black laws, and they differed across different counties and states, but they basically regulated Black people's activity. And they're there, if you had an oyster saloon. And you did something that ran afoul of the white establishment, they could come and you know, raid your place and take it over, burn it down. And there was no, there was no recourse really, I mean, Black people in Maryland, and many other states, I mean, they did not have equal rights. And they were given kind of a fig leaf, like a perception of, of freedom and an ability to make a living and that kind of thing. But they weren't given full. And so like you couldn't get a loan at the bank. And you couldn't be out on your Skiff after hours, or other things. And so, what would happen was, you know, white merchants would get jealous of Black merchants that were out selling them or, and they would make up a pretext, and they could shut a business down."**
>
> **-Rona Kobell**

Similar to the historian's study participant perspective, much like Rona's sentiment, there was a collective belief among ten study participants that the mistreatment was intentional and systemically implemented throughout Black watermen's history to keep their involvement as minimal as possible. The participants openly shared the ongoing racial discrimination and systemic barriers that are still faced by Black watermen today.

All eight Black watermen and two historian study participants (Figure 2) shared narratives of systemic wage inequities and social maltreatment. Black watermen participants shared their experiences of wage disparities, where white captains received preferential compensation for comparable work. Black watermen who spoke up about these injustices often faced punitive measures and retaliation, leading to reduced work opportunities and delayed access to markets.

> **"They start to count your money, they start to treat you different. You know, it was a whole lot of hellacious experiences on the water that could deter anybody, any person of color that wanted to get in this industry, if it was laid out on a red carpet…And I'm trying to articulate this the best way because it was very, very, very hurtful to see some of the things, and I experienced some of these things. So we've even had people trying to sink our boots, multiple ways of disconnecting battery plugs, disconnecting build switches, and trying to rely on mechanics and pivotal points in the season. We had one mechanic actually hoist our boat out and take our motor out so he could do a repair. He took our engine for the whole season and would not get back to us. Instanced to give it to someone else and wanted us to pay him and someone else to fix the engine. We've had Dock Masters cuss us out and tell us we need to leave. We have snide looks all the time. It's a lot of horrible treatment, it was getting better. But when**

we had a certain person in the presidential office, it felt like it pulled the scab back, and we were back in the 70s or 60s."

"…And we still go through it to this day, because they don't like to see us by the water. They don't want us to be docked next to us, so we can't be ourselves and communicate with one another. The way we do, you know, sometimes we can get a little loud, because we're so full, we enjoy one another. And it's taken a lot of adjustment. It's taken a lot of being humble, because there's a lot of times where I've wanted to jump out of character. But I think about this shirt that I got on, I think about my father having to go down there by himself, I think about my mother having to go down there by herself. I think about what I represent. You know, my life really is in danger."

-Black watermen study participant

Quotes above and below were provided by a contemporary Black waterman who did not want their identity included due to fear of retaliation. He expressed that his experiences were similar to documented racially motivatedracially-motivated historical injustices. These testimonials reveal how racial injustices persisted in the Chesapeake Bay's commercial fishing industry even though the other aspects of modern society have become more inclusive and accepting of diversity.

"....what do you mean my boat sank? I just bought this boat. And the owners are screaming, you need to come get this boat, it sunk! I don't want VMRC [Virginia Marine Resources Commission] on me and you just need to come and get it and take it home! So I said okay, it's just like God had a hedge over me. I didn't cry. I

didn't panic. I told George I said look, we need to get to the boat. He's telling me that the boat has sunk. And sure enough, it had sunk but someone had messed with the rope.

The rope was criss-cross tied to the pier when we left it. But someone had untied them and left one in the bottom of the boat tied straight, instead of cross, and had it tied straight to the pier so that when the tide came up, the back of my boat got caught under the pier, and emerged in the water. So that caused my motor to get submerged with salt water. So the owner of the marina was like, you need to get this boat up, you need to get the water pumped out, you just need to take it off. I said, Sir. I said, I'm gonna go home, and I'm gonna get a pump.

And we're going to pump this water out. Just give me just give me an opportunity to get it pumped out. And that's what I did the whole time while he was screaming and yelling. We were pumping the water out of the boat. And what we did was we overhauled that entire boat, we had the carburetor rebuilt, we had the gas tank pumped out, you know. And we worked. But we stay focused. And we got everything back to rerun it. And then we went out and started harvesting oysters. I'm telling you it was like a focus. It was a tunnel vision"

-Mary Hill

Mary Hill shared this testimony as she described her determination to pursue a watermen career even after attempts to sink her boat three days after she purchased the vessel and it was delivered to the marina. Occurring in 2013, again, anecdotes like these illustrate how the modern

maritime industry within the Chesapeake Bay may still be a hostile work environment to African American.

> **"I mean, imagine a situation where anytime anyone is jealous of you or angry at you, they can just go to the police and shut you down or kill you. And so, you know, it was they, they wanted Black waterman for their skills, but they didn't want them to be too successful because it would interfere with their successes."**
>
> **-Rona Kobell**

For generations, the African American community has faced systemic barriers to land ownership, which has made it even more difficult for Black watermen to succeed. As quoted by Kate Livie and discussed by other study participants, there has been an increasing trend of increased efforts to revitalize Black fishing communities. However, these efforts often prioritize attracting white residents over supporting the existing Black community.

> **"I think Bellevue was a great example of that. When you look at even some of the development that's happening now, that's sort of a legacy of land that was purchased in the 1950s. It was slated for development and is only now being developed. African Americans struggled to maintain ownership of land because often they were double-crossed or swindled or they were offered money at less/lower amounts than white property owners and things like that [because these areas were seen] as undesirable areas. So, all these things, people didn't think that black culture was worth preserving. If you put into development and in a black community and white people came in, then it was an improvement."**

-Kate Livie

Most Black watermen participants were influenced to have a career as a waterman and take over their families' maritime businesses from family members, especially their fathers. Some did not initially choose to continue their family's maritime legacy as a career but returned to the industry up to 10 years post-career change due to the influences of shifting family dynamics and obligations.

"I didn't always want to do it. Because as a kid, I did it. And when I didn't like doing it, I changed careers. And then, after I retired, I came back to it, but he was my great influencer, just to see him continue and, and the longevity. That's how long he's been doing it and enjoying it."

-Lamont Wright

As the Bay's fisheries continued to fluctuate, Edzel Turner, a participant and former owner of Turner Seafood Company, consciously decided not to pursue his family's successful business due to environmental concerns. According to Mr. Turner, obstacles that his father faced during his decision-making process while operating Turner Seafood Company were not commonly and openly discussed with him with growing up.

"Primarily, the seafood industry was in decline, and it's been in decline for some time. And I see that it wouldn't be profitable for me to go into this industry. And so many of the other kids in our neighborhood, we all went to college. And you got to go college to get a professional job, so you don't go to the [Vietnam, serving as an

artillery officer near Frankfurt, Germany] war, the seafood industry, it was good at one time, but it got us started, got sore, it wasn't reliable, you couldn't really depend on it to maintain a livelihood.

Many of our young people went away to school and get hired for our higher education. And consequently, many of them did not come back. They stayed in the cities where the jobs were. Consequently, their parents paid as long as they could, or passed. And they left the houses. And a lot of them start selling houses to other people. But they didn't, they didn't come back, really. And so right now, we have a large white population now because they tend to be moving in."

-Edzel Turner

He explained, "We didn't talk about it that much. But they could see how the industry wasn't going as well as it could. And so they encouraged us to go to college, and get a job other than seafood industry. So what we did." Edzel was encouraged to obtain a degree to improve his livelihood, even if that meant sacrificing the family business.

Generational weatlth is most commonly thought of as inheritance of housing, land, and businesses, but wiithin the fishing community this may also include equipment, vessels, or other expensive items. Three participants specifically touched on the context of generational wealth disparities within African American communities. Historically, white watermen have accumulated wealth across generations, allowing them to establish assets such as boats, homes, and land to pass down to their descendants.

"Historically, whites have had a chance to develop generational wealth since the beginning of this country. We probably within the last 20 to 30 years, as African Americans have really started to have that opportunity to do that. And because it may be a new thing, we may not understand that even though I might not be able to achieve this. In my lifetime, I'm going to set up my children to be able to achieve this. And hopefully, you'll set up with your children to achieve this."

-Dennis DeShields

Changing Demographics: Limited Representation & Participation

"Right now, on the Chesapeake, I know [in Kent Narrows] there's six of us charter boat captains. One, two, maybe four other black crabbers. So maybe 10 or 12. Twelve at the most."

-Capt. Tyrone Meredith

Participants discussed the declining representation and participation of Black watermen and fishing communities in the Chesapeake Bay. The code and the participant's perspective within the decline of African American participation highlighted the influence and impact that social, ecological, and cultural factors have on each other as they change over time. Socially, study participants estimated over 150 active Black watermen up until the 1950s but could only estimate about 12 Black watermen who are still commercially working on the Chesapeake today. This drastic demographic decline was said to be attributed to either ecological changes like fisheries

population fluculations and getting so low in numbers the fishery was no long viable and effective to continue to pursue, the decline of historic Black fishing communities as generations started to leave their hometowns to live else where or the displacement of African Americans from ancestral areas or home, and the lack of representation within the Chesapeake's maritime narrative impacting future generatonal participation in the industry or maritime space. All thirteen interviewees raised concerns about the projected decreasing number of Black watermen and Black fishing communities over the next 10 to 15 years.

"It was mainly black people. Now, it's mainly white people. It shifted majorly."

-Capt. Lloyd Price Jr.

The decline of African Americans in the fishing industry has led to dramatic changes in the residential demographics of waterfront communities within the coastal regions of the Chesapeake Bay. Participants, particularly Black watermen participants, felt that the rapid loss of Black-owned businesses, shanties, and community church spaces resulting in a systemic removal of power among residents, rapid development of multi-million dollar coastal housing has led to elevated housing prices, property taxes, and other related factors that made staying in their communities finiacially challanging for their businesses or residental living.

According to one Black waterman from Kent Narrows, MD, the decline of African Americans living along the Bay's waterfront communities, or coastal towns that used to be historic Black fishing communities, has been ongoing change and decline starting in the late 1980s, with many African Americans moving to other areas as the commercial industry declined and

integration/home construction increased. Additionally, the displacement of African Americans within coastal communities was a significant topic among these participants, with some saying they witnessed or were victim to deliberate efforts by developers to acquiring, and often embezzling, Black historic lands, generational homes, and buildings, for high priced housing developments within their communities which participants felt increased mitigation of "out-of-town" residents moving to the Eastern Shore of the Chesapeake and/or buying waterfront real estate. Community members like, Edzel Turner, Dennis DeShields, and Black female waterman, Mary Hill described historic Black fishing communities as once thriving and self-sufficicent that significantly contributed to the commercial fishing industry but has turned into a predominantly white retirement community with fewties to the industry. Ultimately, the overall perspective from participants concluded that this issue and increased interest from developers has led to the loss of significant African American cultural and community assets, and will continue to dismantle the Black maritime legacy and culture heritage they cherish and wish to preserve.

Additionally, participants expanded this perspective further by expressing their concern with fewer African Americans involved in the Chesapeake Bay fishing industry, as they said their perspectives and experiences are, and would continue to be less represented in higher-level decision-making processes related to fisheries management, conservation policies, and resource allocation, if all 12 estimated Black watermen were to disappear from the industry altogether.

Lastly, study participants significantly discussed how the lack of historical documentation and the misrepresentation of the Black maritime legacy is impacting the future of African American participation within the Bay's commercial fishing and maritime industries. Participants acknowledged the role that the absence of viable documentation and resources about Black maritime history as attributed to the decline consistent Black participation with the industry

and emphasized the need to rectify this misrepresentation and inaccessibility in order to foster rention and longevity of future generations of African Americans wanting to be involved or have cultivate a career or livelihood within the commercial fishing and maritime industries.. Participants discussed potential solutions that were needed for toacknowledge and preserve African American maritime heritage. Three participants called for initiatives as potential resolutions to this issue, such as the improvement and development of museums with full archives of Black maritime history, documenting first-hand experiences of Black watermen and historic communities through oral histories and community-driven projects. Additionally, participants highlighted the traditional mentorship and hands-on teaching techniques that they were provided in their careers, and emphasized the significance of cultural education.

Common impacts on Waterman livelihoods: Contributing Factors to Industry Challenges

> **"Because the way life is so hard. You got sometimes, you will be making a penny and sometimes you won't be making anything. The water used to freeze up for like, two months a year. During the oyster season, we couldn't even work sometime, it would freeze up for like two weeks that you might get out work a week, and it would freeze back up for another two weeks. So it was really hard trying to get through the winter. Really, really hard!"**
>
> **-Capt. Montro Wright**

A career working on the water is full of risks and rewards, and it often dependent on the environment factors. Although this study focuses on Black watermen and the African American experience within Chesapeake Bay's commercial fishieries, it was essential to also acknowledge the overall common watermen barriers that were not related to socially or culturally driven influences.

> **"Yeah, kind of trying to shove the poor watermen out of here. You know, more or less. But lucky, Queen Anne's County got this, [Kent Narrows] here, just for us watermen. That's what's saving us right here in Kent Narrows. Otherwise these marinas really don't want to watermen even tied up in a marina."**
>
> **-Capt. Tyrone Meredith**

Ecologically, participants voiced significant concerns regarding the impacts of climate change on their way of life economically and culturally. They discussed how significant ecological changes within the Bay have resulted in declining numbers of targeted fisheries, which ultimately have led to shifts within local and state fisheries management and policy plans aimed at conserving marine resources, combating overharvesting of Chesapeake species.

> **"…I see so many things that's going against us and with all the sanctuaries that are being put into place. Like back in the 70s, MSX and Dermo came through in the 70s destroyed most of the population of oysters. And [Chesapeake waterman] had nothing to do with that. But to rebuild the water quality and everything, [state agencies] made sure that certain places had the most oysters, they made them sanctuaries to filter the Bay. Okay, I can buy that. But [state agencies] took all the prime bottom, all the prime bottom to do it and it's practically put us out of**

business. I'm traveling from [Kent Narrows], well down towards Wingate, One year, next year, I'm down last year to Farm Creek. Hour and 20-25 minutes from home when there are sanctuaries in this area we can't touch. I gotta go even more to make a living."

-Capt. Buck Lynch

Lastly, participants strongly felt recent alterations in fisheries management policies from governement entities like Maryland Department of Natural Resources, that have resulted in stringent restrictions on aspects such as, regulations on fishing grounds, limitations on access to traditional fishing areas, harvesting quotas for finfish and shellfish, in order to support entities goals of mitigating certain species population declines. Further, participants expressed that these restrictions have strongly impacted watermen's economic viability, economic productivity, and overall participation within the fishing industry over the last few decades, as fisheries management has felt dismissive of considering the livelihood of watermen becoming an impact barrier of all watermen, no matter the racial background. .

"The chokehold that Maryland DNR puts on certain fish. Like the Rockfish, two per person, one per person and different circumstances on the Spot. That's what really hurts. That's the biggest fish in our industry and Maryland for bottom fishing is Spot. They put a limit on Spot this year for 50 per person that's a big difference. I really don't feel like all of the stipulations that have been put in place, by leadership on the water are beneficial to make people even want to step into the realm.

Fisheries Influences

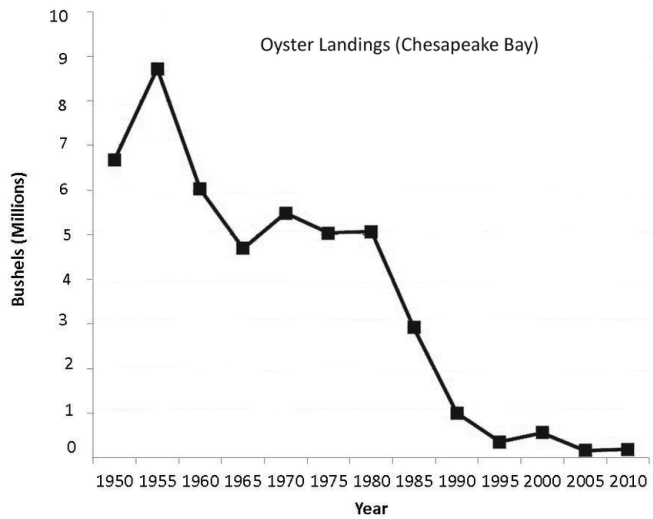


Figure 5: Landings of oysters in Chesapeake Bay, 1950-2010. Source: U.S. Fisheries Statistics and Fisheries of the United States.

Surcharges varied over time and trends appeared to lag by one year behind annual oyster landings (Fig. 6).

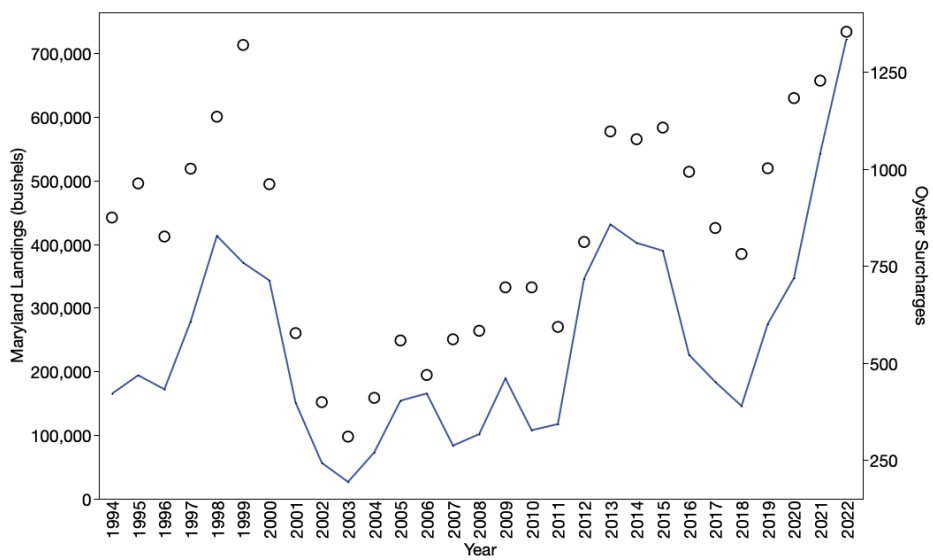
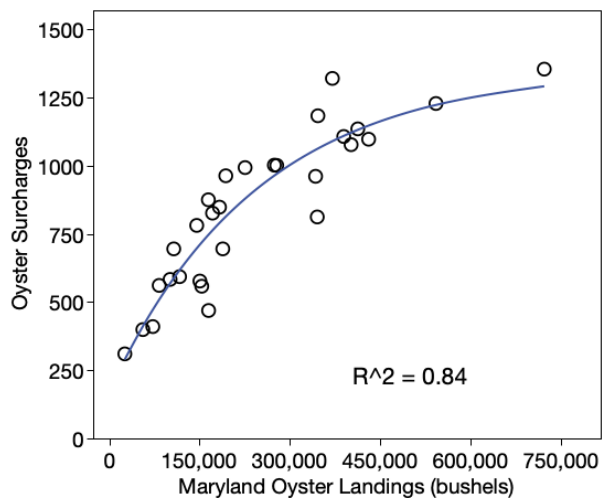


Figure 6. Oyster landings in Maryland over time and oyster surcharges.

A non-linear, three parameter exponential regression was found best (as determined by AICc) to describe the relationship between Oyster Surcharges and oyster landings in Maryland (Fig. 6) and can be stated using the following equation:

$$Oyster\ Surcharges\ =\ 1408\ -\ 1217\ \times e^{(-3.66\ \times\ Maryland\ Landings)}$$

The overall fit of the model was fairly strong ($R^2 = 0.84$) when explaining the variation in surcharges between 1994 and 2022.



One interpretation of the relationship between oyster surcharges and landings data is that more licenses were purchased when catch per unit effort is high; however, another interpretation could be that simply more oysters are landed when more effort is applied. To help untangle these two possibilities, we examined the relationship between the Biomass Index metric from DNR's Fall Oyster Survey and oyster surcharges. This Biomass metric accounts for several other vital factors which govern oyster population trends other than fishing mortality. A strong ($R^2 = 0.75$) linear relationship ($F_{1, 28} = 81.7$; p-value<0.001) was observed between licenses purchased and the Bay's oyster population health (Fig. 6).

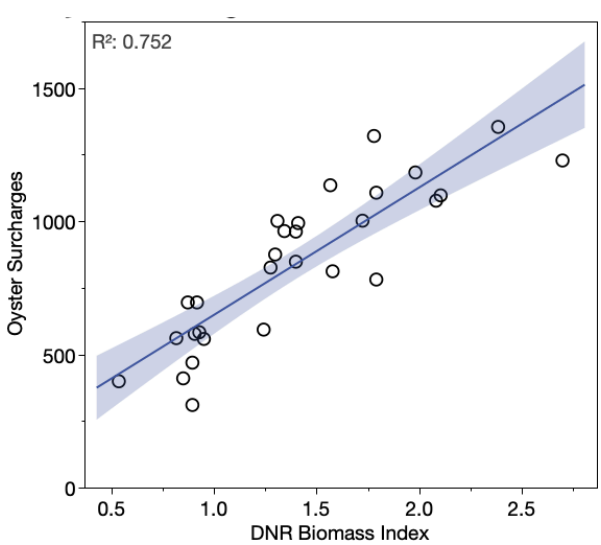


Fig 7. Oyster surcharges over DNR Biomass Index

Chapter 4: Discussion

> **"This thesis and everything else you're doing beyond it is so important because we do need to recognize that and to honor it and see what we can do to preserve what's left and grow it. I mean, we have opportunities to do that, and we should take advantage of it."**
>
> **-Rona Kobell**

Semi-structured interviews provided invaluable insights into African American watermen's experiences, participation, and livelihoods within Chesapeake Bay's coastal communities. By delving into the social, cultural, and environmental factors influencing their engagement in the fishing industry, this research aimed to unravel the complex decisions and patterns driving their declining participation. From the 1950s to the present day, I explored the socio-ecological factors, including ecological, social, and cultural dimensions, that have shaped the challenges and barriers faced by African American watermen over time. This study sought to deepen our understanding of the Black watermen and maritime heritage by meticulously analyzing diverse primary and secondary sources, including archival records, newspapers, and oral histories. This endeavor was driven by the imperative to recognize and honor the historical significance of the Black maritime legacy, while advocating for increased future maritime participation as a means to preserve this heritage. Drawing from the insights gleaned, we formulated suggestive recommendations for promoting greater African American participation in Chesapeake Bay's commercial fisheries and maritime industry, prioritizing accessibility, inclusion, and long-term sustainability. In navigating past and present complexities, this study serves as a testament to the

enduring importance of acknowledging and preserving the diverse legacies that have shaped our maritime heritage.

Reflecting on the extensive involvement of African Americans in the development of the Chesapeake Bay, it becomes clear just how significant their contributions were in shaping the region's history. Their role in the origins of the watershed and throughout the development of what we know of the commercial fishing industry on the Chesapeake Bay today, cannot be overstated, and should be strongly considered within the historical narrative of the social, cultural and economic evolution of the Chesapeake Bay watershed (Bolster, 1997; Cecelski, 2012)

Identity to Erosion. The Chesapeake Bay commercial fishing industry has stood as a cornerstone of economic and social vitality for African American communities, with historical and cultural ties dating back to pre-enslavement eras. Amidst enduring environmental and societal challenges, the significance of cultural heritage and identity among Black watermen within this industry remains unmistakable. Rooted in a legacy that spans generations, historic Black fishing communities have upheld a profound connection to their heritage, often recalling periods of prosperity and resilience within the industry. This participation, tracing back to the Slavery Era, has not only served as a source of cultural pride but also as a vital mechanism for community cohesion and economic empowerment. This connection to spirituality has played a pivotal role in fostering self-sufficiency, employment independence, and generational identity among Black watermen in the Chesapeake Bay. Mary Hill aptly characterized this heritage as a "divine gift," underscoring the spiritual dimension that has long been intertwined with maritime livelihoods among African Americans. As a result, the Chesapeake Bay commercial fishing industry has not only been a means of economic sustenance but has also been a critical aspect of the cultural heritage and identity of Black watermen in the region.

Moreover, similar connections to the Bay's fisheries resources resonate in coastal communities across North Carolina, South Carolina, and Georgia, where descendants of enslaved Africans contributed significantly to plantation and port labor. Among these communities, the Gullah Geechee people emerge as esteemed custodians of rich maritime traditions, further underscoring the enduring significance of cultural heritage within the maritime domain. The Chesapeake Bay commercial fishing industry and other similar industries throughout coastal communities in the South have been instrumental in preserving African American cultural heritage and identity. The spiritual dimension of maritime livelihoods has played a critical role in fostering self-sufficiency, employment independence, and generational identity among Black watermen. Therefore, it is essential to recognize and celebrate the cultural heritage of these communities and support their continued participation in these industries.

The tradition of being a waterman runs deep within the fabric of Chesapeake Bay's historic Black fishing communities, as evidenced by the enduring commitment of some participants to continue their family legacy spanning decades. There is a palpable sense of pride among Black watermen participants in upholding the time-honored watermen lifestyle instilled by their elders, underscoring a profound dedication to preserving the rich legacy forged by previous generations. However, the dearth of documentation surrounding this heritage poses a significant challenge, inhibiting the transmission of ancestral knowledge and resilience to younger generations seeking to reconnect with their roots and perpetuate the cultural legacy of Black maritime involvement. Rona Kobell, a respected Chesapeake Bay historian, emphasizes the importance of commemorating the robust Black communities that once thrived in the maritime industry, suggesting various methods such as oral histories and photographs. She underscores the need for a deliberate effort to acknowledge and preserve the rich maritime history among Black Marylanders, particularly in the context of museum representations. With only a handful of museums in Maryland dedicating sections to Black maritime history, there is a pressing need to accurately document and celebrate the Traditional Ecological Knowledge (TEK) of

Black watermen to safeguard their legacy (Clay & Olson, 2008). Revitalizing the cultural significance of Black watermen's contributions emerges as a critical imperative to ensure that their historical legacy receives due recognition and honor within the broader narrative of Chesapeake watermen. Moreover, the historic ecological changes and declines of the Bay's fishing species populations and ecological landscape have further underscored the urgency of preserving this cultural heritage. As ecological shifts continue to reshape the Chesapeake Bay, anchoring the cultural identity of Black watermen within the historical fabric of the region becomes essential for fostering resilience and continuity amidst evolving environmental challenges.

The ecological changes of the Chesapeake Bay have emerged as a formidable barrier for Black watermen and historic Black fishing communities, posing significant challenges to their livelihoods and cultural heritage. Participants emphasized the profound cultural impacts stemming from these environmental shifts, lamenting the continuous loss of ancestral burial grounds and homelands within their communities due to sea-level rise. The escalating threat of climate change-induced sea-level rise and coastal flooding compounds existing challenges, exacerbating the precariousness of coastal living for Black watermen and their communities. Moreover, the precipitous decline in fisheries and natural resources further compounds the economic strain faced by watermen, undermining their traditional occupation and way of life. These ecological upheavals are intertwined with broader societal changes, including the rapid gentrification of coastal areas, which further marginalizes Black watermen and threatens the cohesion of historic Black fishing communities. The urgency to preserve this history is palpable within the collected perspectives, underscoring the imperative of safeguarding cultural identity and a sense of belonging in African American coastal communities. Indeed, the ecological fluctuations impacting Black watermen resonate beyond individual livelihoods, reverberating throughout the entire Chesapeake Bay region and challenging the continuity of our shared cultural heritage and maritime history that has shaped our coastal communities for generations. Recognizing and addressing these

ecological barriers is essential not only for the preservation of cultural identity but also for the resilience and sustainability of coastal communities in the face of ongoing environmental challenges.

The lack of historical documentation and misrepresentation of the Black maritime legacy have emerged as significant contributors to the erosion of cultural heritage and Traditional Ecological Knowledge (TEK) within Chesapeake Bay's commercial fishing industry. Study participants expressed profound concerns regarding the adverse impact of cultural factors on the future demographic participation of African Americans in the industry. The prevailing perspective among participants highlights a notable decline in the involvement of Black watermen, exacerbated by the diminishing intergenerational transmission of TEK and cultural legacy. Moreover, systemic omissions of Black maritime history, referred to by some as an "eradication," underscore the urgent need to recognize the significance of cultural identity in preserving the cultural heritage and TEK of African American fishing communities. As African American presence and involvement continue to diminish, participants voiced apprehensions about the loss of invaluable traditional knowledge, skills, cultural practices, and community heritage, posing a threat to both African American fishing communities and the broader cultural fabric of the Bay watershed.

The decline in Black watermen's participation has had far-reaching consequences, impacting community wealth, independence, and the cultivation of a robust maritime identity among current and future generations (Clay & Olson, 2008). Historically, the vital engagement, industry occupations, successful businesses/operations, and influential community members within these sectors have been deeply intertwined with the heritage of the Black fishing community in the Chesapeake Bay (Mamary, 1994; Brown, 2020).

The frustration stemming from the lack of recognition of Black watermen and African Americans in the narrative of Chesapeake Bay's commercial fishing and maritime industries is palpable and deeply rooted in the lived experiences of community members. Captain Lamont Wright, a Kent Narrows Black waterman with

nearly three decades of experience, voiced his disappointment regarding the absence of acknowledgment for his father, one of the oldest living Black watermen on the Chesapeake, and the numerous contributions from other influential African American community members. His sentiments underscore the pervasive issue of historical erasure and systemic marginalization faced by African American watermen within the region. As Captain Wright lamented, the historical archives and representations in Queen Anne's County predominantly reflect the perspectives and narratives of the white population, resulting in a glaring omission of the significant contributions made by African Americans to the maritime industry. The fleeting displays of African American history at the Heritage Center serve as fleeting reminders of a rich and vibrant heritage overshadowed by systemic neglect and indifference. These accounts serve as poignant reminders of the imperative to preserve African American maritime history as a vital aspect of cultural heritage. They transcend mere folklore, encapsulating lived experiences, profound connections to heritage, communal struggles, and the enduring pride of successive generations of Black watermen.

The historical legacy of African American watermen, once integral to the functioning and control of maritime operations, stands as a testament to their resilience, resourcefulness, and unwavering commitment to their craft. However, without concerted efforts to rectify historical injustices and amplify the voices of marginalized communities, the invaluable contributions of African American watermen risk fading into obscurity, perpetuating a cycle of erasure and disenfranchisement. It is incumbent upon us to recognize, honor, and preserve the legacy of African American watermen, ensuring that their stories are not only acknowledged but also integrated into the broader narrative of Chesapeake Bay's maritime history. Addressing these challenges necessitates concerted efforts to preserve and transmit the rich cultural legacy and TEK of African American watermen, ensuring equitable access to historical information and fostering a renewed sense of cultural pride and heritage among younger generations.

"Freedom is really the central kind of point here in a lot of the decision making that African Americans did I mean, going from being regular waterman to charter boat captain. There was no cap on their income because they were their own bosses. Freedom plans independence, because even before freedom, independence is a mindset. You can't, if your mind wants you to be free. So they were really fighting for independence, to be able to protect their families, protect their daughters, because they came out of a system of enslavement. To protect them from abuse. They could marry legally. So there was no formal family structure. The system was designed to sell one up the river, and one down the river. So I think that it's hard to squash quilts, the spirit of freedom, the spirit of independence, being able to make decisions. And hope that you, in spite of it all, we still will rise."

-Vince Leggett

Navigating Challenges. The decision-making of commercial watermen is a complex interplay of traditional knowledge, economic factors, environmental considerations, and social dynamics, which impacts decisions toward harvesting locations, target species, efficient fishing practices, occupation viability, industry participation, etc. African Americans' contributions to the Chesapeake Bay maritime industries have been both profound and multifaceted, marking an indelible legacy of success, entrepreneurship, and mutual support, manifested by their strong generational identity with the maritime space and their cultural and economic ties within their coastal community. Chartering provided a steady income and allowed them to share their love for the industry with the recreational and sport fishing community surrounding Chesapeake Bay. For those in maritime occupations like fishing, decision-making and critical thinking are essential skills to overcome challenges such as environmental conditions, regulation compliance, and economic factors (Blount, 2000; Salas and Gaertner, 2004; Power, 2014).

The Chesapeake Bay, once teeming with abundant marine life, has witnessed a significant transformation over the past few decades, profoundly impacting the livelihoods of Black watermen whose heritage is deeply intertwined with the maritime industry. Ecological changes within the Bay, marked by the depletion of natural resources, have played a pivotal role in shaping the decision-making process of these watermen. As the fishing industry grapples with ongoing challenges to maintain economic viability, Black watermen face a complex interplay of ecological, social, and political factors that influence their participation in maritime occupations.

The decline in watermen participation mirrors the fluctuations in landings and available resources within the Chesapeake Bay watershed. Historical trends reveal a statistical correlation between diminishing commercial license occupancy and retention, underscoring the interconnectedness of ecological shifts and workforce dynamics. For Black watermen, adapting to these changes has been imperative for the survival of their livelihoods within the commercial fishing industry.

African Americans in the maritime sector have historically navigated systemic injustices, employing a high-risk approach in their decision-making process. This resilience, however, has been tested by the decline of the seafood industry, forcing many Black watermen to confront difficult choices regarding their occupational future. The need for adaptation becomes paramount as traditional fishing practices prove insufficient in the face of ecological degradation and economic instability. This included shifts in the seafood industry, such as unfair labor wages and the decline of certain key marine resources, like clams and oysters, which participants claimed impacted their decision to switch careers and adapt their fishing practices.

Moreover, the socio-political landscape further complicates the decision-making process for Black watermen. Structural barriers, including limited access to resources and opportunities, exacerbate

the challenges they face in sustaining their maritime legacy. Despite these obstacles, Black watermen have demonstrated resilience and resourcefulness, seeking alternative means of livelihood to support themselves and their families.

In essence, the decline in watermen participation underscores the intricate relationship between ecological changes within the Chesapeake Bay and the adaptive strategies employed by Black watermen to navigate the evolving commercial fishing industry. As they confront the realities of diminishing natural resources and systemic injustices, the resilience and adaptability of Black watermen remain central to their survival within the maritime sector.

Amidst ongoing transitions in the ecological and economic landscape of the fisheries, adaptation becomes paramount for the survival and prosperity of watermen, regardless of their racial background or ecological regions. However, for Black watermen, navigating these transitions is compounded by structural barriers that hinder access to resources and opportunities. The occupational transition of African American watermen in the Chesapeake Bay region was a complex issue that extended beyond environmental policy and into social and economic justice. While the decline of the seafood industry and ecological concerns were significant factors, the multifaceted impact of occupational transition demonstrated the need for increased access to higher-paying occupations and attainable education possibilities that offered more stability than the commercial fisheries industry. Black watermen participants mentioned not only the common waterman decisions that shaped their careers but also unique factors that specifically impacted them within their experiences. The older Black watermen (70 years old and above), reflect a perceptible shift towards economic parity in the 1970s, but younger Black watermen participants (60 years old and below), particularly during the 1980s, continued to face challenges before transitioning to full-time chartering and assuming entrepreneurial roles (Figure 2).

The spirit of entrepreneurship among Black watermen and business owners within the commercial fishing industry transcended individual success, evolving into a culture of mutual aid and community support. Through the establishment of Black-owned businesses, African Americans diversified their occupations within the maritime sector, creating opportunities for their peers and investing their economic success back into their communities. This ecosystem of support was instrumental in uplifting and propelling the success of individual ventures, fostering a resilient and interconnected Black fishing community. Successful Black entrepreneurs in the maritime industry not only achieved personal wealth but also served as lifelines for others within their community. By offering opportunities based on job performance rather than skin color, they challenged systemic barriers and provided crucial financial support to those facing obstacles in securing loans from traditional institutions. This symbiotic relationship between entrepreneurship and community empowerment underscores the multifaceted nature of occupational transitions in the Chesapeake Bay region.

Although many of them eventually became business owners, they also discouraged their children from following in their footsteps due to the unfair labor wages and the decline of the industry. The Chesapeake Bay fisheries have historically been unstable, leading to a disproportionate loss of livelihood for Black watermen at different times in their participation history. As the emergence of higher education opportunities for African Americans during this period further influenced occupational decisions within the community. Some individuals, like others in their generation, opted not to enter the fishing industry, driven by a combination of adverse ecological conditions, social pressures, and emerging economic opportunities. This has forced many Black watermen to look for alternative employment opportunities in other areas of the maritime industry, such as roles at Newport News shipyard, seafood processing facilities, and the US Navy Yard (Blount, 2000; Hoskins-Brown, 2020). Younger generations of Black

Americans are not entering the fishing industry at the same rate as before, opting instead for employment in other sectors or pursuing education and new opportunities elsewhere.

This shift highlights the complex interplay of environmental, social, and economic factors shaping career trajectories in the region. However, access to such opportunities has historically been limited for African Americans, with exclusion persisting until recent times. Despite facing systemic challenges, Black families have prioritized overcoming socioeconomic difficulties and ensuring a better future for their children. This commitment has involved a persistent focus on providing avenues for educational and career advancement, allowing future generations to navigate the complexities of livelihoods and careers in the Chesapeake Bay region and its commercial fishing industry. Despite these challenges, the decision by some Black watermen to primarily use their workboats for chartering represented a significant shift, granting them autonomy and the ability to independently earn a living for the first time.

The decline of African Americans in the fishing industry has contributed to economic disparities within historic Black fishing communities, which has perpetuated existing racial and economic inequalities over time. All thirteen study participants mentioned the strong presence of economic obstacles that impacted decisions to continue their careers working on the water. This theme was discussed 50 times within the interviews, which was the highest recorded application among all codes/themes in this study. The collective perspective on the impact of economic disparities was seen as one of the main crucial factors among the discussed impacts of the Black watermen decline.

Historic racial mistreatment and systemic barriers have been pervasive throughout the history of Black participation in the Chesapeake Bay commercial fishing industry, significantly influencing their success, retention, and eventual exit from maritime occupations. Past and present experiences of

discrimination, unequal compensation, limited access to capital, and restrictive laws have cast a long shadow over the journey of Black watermen on the Bay. These challenges have contributed to generational wealth disparities and perpetuated economic inequalities within the community.

Discriminatory practices within the industry, such as unequal compensation and punishment, have served to exacerbate economic disparities for African American watermen. The power dynamics wielded by seafood buyers often favored white counterparts, resulting in lower market prices and diminished compensation for Black watermen's products. Seafood buyers wielded significant power in determining the earnings of watermen, often favoring white watermen with better market prices and higher compensation for their products (Beaudreau et al., 2019). The inaccessibility to capital and the lack of economic growth opportunities for Black-owned businesses continue to hinder progress, with banks historically declining to finance essential industry enhancements for Black watermen, such as purchasing work boats. The enduring presence of racial slurs, exclusion from opportunities, and overt or microaggressive biases within the predominantly white industry have further marginalized Black watermen. Social interactions between white and Black individuals in the maritime sector have remained limited, even after societal desegregation efforts in the 1970s. Instances of sabotage, including attempts to sink boats and interference with equipment, highlight the systemic challenges faced by Black watermen in accessing essential resources and maintaining their livelihoods.

While some progress has been made, with societal attitudes shifting over time, disparities persist in the experiences of Black watermen across generations. Mixed assessments among participants reveal differing perspectives on the intentional or unintentional nature of mistreatment within the industry. However, the overarching narrative underscores the enduring legacy of racial injustice and its profound impact on African American participation in Chesapeake Bay maritime occupations. As the industry

continues to evolve, addressing systemic inequalities and fostering inclusive practices remains essential to creating a more equitable environment for all watermen, regardless of race or background.

This is another example of cultural heritage in language/perspective because over time, yes, free/freedom still means what it did back then, to be released from something. In this context, the definition within the African American perspective has "evolved/changed" as the social-ecological factors have to incorporate the "new" perspective. So what I'm trying to say is centered around self-sufficiency, adaptability, and economic freedom/viability. Whether that's within the ecological, social, or economic factors.

> **"They don't want a poor waterman tied up next to them in a marina. So this is really the only place we got to go."**
>
> **-Capt. Tyrone Meredith**

Restricted Involvement.

The limited representation and participation of Black watermen, as well as future generations, are significantly influenced by the decline of viable maritime occupation options to adapt to industry changes. Consequently, there has been a gradual cultural shift and declining interest in traditional occupations such as fishing, crabbing, oystering, and shucking, which were once foundational within Black households.

The increasing decline of the African American demographic in the fishing industry has a direct correlation towards the decline of valuable TEK historic fishing techniques, and cultural practices (Chambers, 2006; Harris et al., 2017). Decades after the decline of Indigenous tribes within the watershed, African American communities on the Chesapeake Bay have endured similar impacts of continuous loss

of cultural heritage. This loss has consequently eroded the broader cultural fabric of the Chesapeake Bay heritage as well.

> **"Gentrification plays an extreme role, because you push folks out who were the base and the foundation."**
>
> **-Capt. Mike McQueen**

Adapting the Tides. Interviewee results suggest demographic shifts were driven by various factors, including the exodus of younger generations seeking alternative career paths or moving away for better opportunities. Historically, these waterfront and coastal communities were primarily occupied by Black residents, deeply ingrained in the maritime industry as early as the 1600s. However, systemic barriers such as property displacement and mistreatment of African Americans have persisted throughout Chesapeake Bay history, with promises of land redistribution post-Civil War failing to materialize for many. This historical context contributes to the understanding of the demographic shift towards a predominantly white population, which has eroded historic community values, ways of life, and occupations. Moreover, disparities in generational property transactions have deepened the marginalization and gentrification of historically prominent Black towns dotting the Chesapeake Bay region.

Over recent decades, The changing perception and valuation of Chesapeake Bay waterfront property have intensified these struggles, with waterfront real estate becoming increasingly coveted. This societal dynamic shift, coupled with the transition of coastal communities towards industries targeted at tourists, has diminished the visibility and value of historic maritime occupations (Montgomery et al. 2013; Chhaya et al., 2023). The increased focus on eco-tourism and the influx of tourists into coastal

communities have further exacerbated cultural decline, as tourists often impose external visions on local communities, conflicting with the genuine needs and desires of residents (Gale 2008; Meyer 1987).

As coastal living becomes increasingly desirable, local communities are being displaced from their ancestral lands to make way for high-priced developments, businesses and private land ownership, posing significant challenges for affordable housing and property ownership. Efforts to revitalize these communities should strive to make homeownership more accessible and provide affordable housing for future generations to thrive within their coastal communities. However, this issue disproportionately affects young people in the Chesapeake Bay regions, and US at large, particularly Millenials and Gen Z, who face barriers to entry into the housing market due to high costs and limited housing stock. This problem is exacerbated for the Black watermen community, which serves as a subset of the larger watermen community on the Bay. The broader challenges of gentrification and climate change, which are reshaping the Eastern Shore and exacerbating economic affordability issues, further compound the difficulties faced by the next generation of Black watermen and licensed boat captains aspiring to enter the watermen industry and support their families in this coastal region within maritime occupations.

Consequently, younger generations emigrate from their hometowns for better opportunities, diminishing the likelihood of returning to inherit property or cultural goods and services, thus hindering generational succession (Hershatter and Epstein 2010).

A Multi-Faceted Livelihood. Although Black watermen did face unqiue challenges that influenced their participation within the industry, it's important to this research to acknowledge the barries and challenges that all watermen faced within their profession as well. The multifaceted challenges encountered by all watermen in navigating environmental, economic, and cultural shifts within the

Chesapeake Bay region are deeply entrenched in their historical and contemporary experiences. The study findings underscore a spectrum of hurdles faced by watermen, ranging from resource fluctuations and weather-related obstacles to cultural barriers that significantly impact their productivity and livelihoods. Climate change emerges as a particularly formidable challenge, exacerbating existing issues and disrupting traditional fishing practices.

The Chesapeake Bay's commercial fisheries have undergone substantial changes over the years, leading to the depletion of fisheries resources upon which watermen rely for their sustenance. Ecological fluctuations, economic pressures, social dynamics, and cultural shifts have all contributed to the challenges faced by watermen in maintaining their way of life. Climate change further compounds these challenges, posing significant obstacles to watermen's ability to earn a living through traditional, wild-caught fishing practices. Efforts to conserve and rebuild these resources through fisheries management plans and policies have met with mixed reactions from Black watermen. While conservation is recognized as essential for the industry's sustainability, many watermen express concerns about the economic toll of restrictive policies on their communities. Weather-related disruptions, such as storms and diseases, also present ongoing challenges to productivity and economic opportunities within the seafood industry.

However, Black watermen were impacted by historical exclusion and discriminatory practices within fisheries policies have marginalized Black fishing communities, perpetuating inequities in access to permits, leases, and fisheries. Regulatory trends that limit access to certain fisheries and fluctuating catch quotas disproportionately affect coastal communities, particularly those with significant Black populations, often resulting in unjust fines and penalties. In response to these challenges, Black watermen advocate for greater inclusion of their perspectives and knowledge in fisheries management planning. Policy interventions and targeted programs are deemed essential to supporting watermen in navigating the

evolving ecological and economic landscape. Comprehensive and inclusive research approaches are needed to address the complex dynamics and injustices within the Chesapeake Bay commercial fishing industry, ensuring equitable opportunities and sustainable practices for all stakeholders involved.

Although the presence of harmful and frequent racial interactions was demonstrated to exist strongly, Black watermen participants intentionally highlighted the collaborative spirit between Black and white watermen while working on the Bay. For the older generation, there was an overwhelming mention of separation between social interactions on and off the water. They worked together, assisted in critical situations, and provided mutual support while facing common challenges, such as weather, boat operations, and the unpredictability of the seafood industry. This dynamic between watermen could be viewed as discordant with the overarching perspective of this research. On the water, Black watermen participants talked about the "watermen's creed," which describes the support, aid, and mutual respect shown among all watermen anytime on the Bay, regardless of racial background. However, off the water, participants describe that societal dynamics would kick back in once they reached the dock at the end of the day. The testaments of the "watermen's creed" demonstrated significant cultural importance within the overall Chesapeake commercial fishing industry, particularly within this existing narrative of discourse and racial mistreatment from white watermen to Black watermen. It was essential for this study to acknowledge the persistent history of racial injustice and mistreatment in addition to the cultural values of the "watermen's creed". And that as we move forward with the Chesapeake's cultural preservation, we are intentional about centering our perspectives, efforts and goals around the foundational connection that the "watermen's creed" represents and showcases about the integrity of the Chesapeake Bay watershed and the coastal communities that have all been a part of its' evolution, positively and negatively.

"I think why the Black watermen declined, because there were a lot of real old watermen. And it was, as they got older and older, and had kids. And all the kids didn't want to take to the water, because it was a hard life. I mean, you just, it wasn't something for everybody who said. Like, I used to carry my sons out on the boat with us. And we call one weekend when he wouldn't go on school, if we were working on Saturdays, and all and someone had to have picked clams and all that. And it wouldn't, it just went for everybody. And a lot of them didn't take it was more took to its own. But I got overshot. They never, they never took to it."

-Capt. Lamont Wright

The comprehensive analysis presented in this study sheds light on the multifaceted challenges confronting all Chesapeake Bay watermen, whose livelihoods are intimately intertwined with the dynamic ecosystem of the Bay and the resources vital to the commercial fishing industry. As we confront these challenges, it becomes increasingly evident that holistic solutions are imperative to safeguard watermen's livelihoods and protect the cultural heritage deeply ingrained in the Chesapeake Bay's commercial fisheries. While climate change and sea-level rise may alleviate some environmental hurdles, they also introduce new complexities and uncertainties. The declining participation of African Americans in maritime activities not only threatens the continuity of traditional knowledge and cultural practices but also jeopardizes the integrity of African American fishing communities and the broader cultural tapestry of the Chesapeake Bay watershed. As we stand at this crossroads, the imperative to preserve the legacy of Black maritime history for future generations becomes ever more urgent. Deliberate preservation efforts must be undertaken to ensure the amplification and continuation of Black maritime heritage within the

industry's legacy, fostering a more inclusive and resilient future for the Chesapeake Bay commercial fishing and maritime industry.

Conclusion: A Unity of Mind and Nature

Participants in the study offered recommendations and potential solutions aimed at securing the longevity of the Black maritime legacy, not only within the Chesapeake Bay but also in coastal communities nationwide where African Americans have historically thrived. Expressing concerns about the potential decline of Black participation in the maritime industry, interviewees emphasized a deep commitment to education, community cohesion, and strategic development for future generations. The central focus of the study was to challenge assumptions about African American participation in the Chesapeake Bay commercial fishing industry, necessitating an investigation of the region's social-ecological systems (SES). Understanding the interconnectedness of ecological, social, cultural, and political factors was deemed paramount, as these elements constitute the very fabric of synergy within the ecosystem. Furthermore, the research sought to honor and amplify the traditional maritime occupations on the Chesapeake Bay, particularly highlighting the significant African American/Black legacy within its rich history.

Recommendations from participants centered around strategic development, advocating for deliberate community-focused planning to empower future Black generations to become more involved in the industry. This intentional engagement includes preserving traditional maritime practices, leveraging existing knowledge to strengthen community cohesion and industry practices, and developing strategic preservation efforts to ensure a resurgence of Black heritage. The participants underscored the importance of acknowledging the few efforts that have been made to include the African American maritime legacy, while also emphasizing the necessity of unification within the watermen community.

The unification of watermen, irrespective of race, was deemed essential to ensure their continued presence on the Chesapeake Bay and preserve the traditional legacy of the region. Participants emphasized that the potential loss of the Bay's cultural heritage and the decline of watermen's participation as a career on the Bay are concerns that affect all watermen, regardless of race. Therefore, it was proposed that Black and white watermen need to come together to ensure the foundational preservation of their combined legacy. By collectively honoring and preserving the legacy, a unified front can be established, transcending to collaborative efforts in policy representation and other areas. This combined effort aims to prevent significant shifts within the community's value system and safeguard the role of watermen from becoming obsolete over time.

> **"I think the Harriet Tubman Museum has been a game changer in that opened, and it's been very successful. And I think even though that is like, centered around Harriet Tubman, who is a person that you can kind of admire, will definitely admire and it's more the narrative about a person as opposed to a subject. I think it has shown that there really is an appetite for Black History by everyone, from everyone. And Harriet Tubman is a hero and but it's, the museum isn't just about Harriet Tubman. It's about the communities that nurtured her, how she grew up in the land and the history of the area. And so I think, another talking about doing a Frederick Douglass Museum, on the shore also."**
>
> **-Rona Kobell**

Chesapeake journalist, author, and historian, Kate Livie, demonstrated this perspective as it's documented within Bay history:

“The traditional African American Waterman way of life starts to go by the wayside, there's not like a large incentive to preserve it, or to continue those traditions in that same location. And that can be because of cost? It can be because of education, you know, and it can be because of these larger cultural shifts. But what ends up happening is you have these pockets of Waterman communities that are white and they've persisted longer, but the black Waterman communities were, [dealt with] redlining, and the way that those communities' property would have been bought up and sold first.”

This loss was still noted to impact the overall cultural fabric of the Chesapeake Bay and may affect future efforts to preserve and sustainably manage the region's fisheries. Study participants shared their perspectives and concerns about the cultural factors that influenced African Americans’s participation in Chesapeake Bay commercial fisheries. The shift requires a focus on the interests of the next generation, particularly enhancing multi-disciplinary approaches and occupations that could help evolve key priorities within the industry. The result of limited representation within present-day cultural disconnection. Demographic data in catch and fisheries records has obscured the extent of African American participation in the Chesapeake Bay commercial fishing industry (Mamary, 1994).

In efforts to accurately document and celebrate TEK of Black watermen, the revitalization of the cultural significance of their contributions, will be essential when ensuring the historic footprints of their legacy, are appropriately acknowledged and strongly respected within the broader narrative of Chesapeake watermen. The lack of documentation has impacted both the cherished resiliency founded by Black community elders and the empowerment that’s needed for younger generations to reconnect with their roots in order to retain our cultural Black maritime involvement in the future. Ultimately, they were upset at the continuous lack of African American inclusion overall but gave credit to museums where it looked like they made an effort to not just have the same cookie cutter/common Black history information but the comprehensive historical narrative that

African Americans/participants are trying to amplify but they suggested content should be expanded and more extensive and could help preserve and showcase Black maritime heritage. They believed the museum paid tribute to Black watermen, these efforts would instill a profound commitment to celebrating the Chesapeake Bay community's collective heritage for future generations. The participants were just acknowledging the few that have/had made some respectable effort to include the African American maritime legacy in general. Ultimately, they were upset at the continuous lack of African American inclusion overall but gave credit to museums where it looked like they made an effort to not just have the same cookie cutter/common Black history information but the comprehensive historical narrative that AA/participants are trying to amplify., but they suggested content should be expanded and more extensive and could help preserve and showcase Black maritime heritage. They believed the museum paid tribute to Black watermen, these efforts would instill a profound commitment to celebrating the Chesapeake Bay community's collective heritage for future generations.

The decline in the representation of Black watermen has created barriers for younger generations to be exposed to and educated about the historic occupational skills of watermen, leading to a disconnect in heritage and cultural value (Whitman, 2007). Without robust resources that can support ownership of boats, businesses, and other industry-related resources, future Black watermen entrants have and will continue to face a steeper learning curve and lack the benefit of generational cultural knowledge, thereby perpetuating economic disparities within the industry.Alternative industries, unfamiliarity, and risk perceptions associated with aquaculture, contribute to hesitancy among African Americans to engage in this evolving industry. Efforts to address these issues must also consider the impact of gentrification on historic Black fishing communities and the difficulties in transitioning to new practices or accessing new technologies to ensure economic stability and security amidst industry changes. Recognizing the importance of investment in maritime education within the Black community, interviewees advocated for

establishing marine schools, providing technical training courses, and encouraging community members to obtain their US Coast Guard captain license. Many young watermen perceive these technological tools as indispensable for enhancing participation and revitalizing interest. This digital realm offers a platform for exposure, enabling diverse methods to engage, educate, and empower the next generation to explore the myriad opportunities inherent in multi-disciplinary marine vocations.

This study has underscored the critical role of leadership and mentorship in empowering future generations of African Americans to engage in maritime occupations within the Chesapeake Bay region. Interviewees emphasized the importance of mentorship in providing opportunity exposure and maintaining traditional practices. They highlighted the need to foster connections that reconnect communities with the root of Black maritime Traditional Ecological Knowledge (TEK), encompassing ancestral ways of communicating technical skills, industry lessons, and communal knowledge that have supported their evolution over the past few decades.

By nurturing leadership and mentorship within Black communities, there is an opportunity to revitalize interest in traditional maritime occupations and ensure the transmission of knowledge and skills to future generations. This not only strengthens Black watermen's cultural heritage but also promotes sustainability within the Chesapeake Bay fishing industry. Additionally, there is a pressing need for specialized educational and training programs tailored to aquaculture and restoration, along with improved outreach initiatives to equip diverse communities with essential skills and knowledge. Despite the limited inclusion of African American narratives within maritime museums on the Bay, participants acknowledged efforts made by some institutions to amplify the comprehensive historical narrative that African American participants are striving to promote.

As watermen confront ongoing challenges, it becomes imperative to comprehensively address ecological, economic, and cultural factors when formulating and implementing safeguards to preserve their livelihoods. Study participants underscored the necessity of adopting a collaborative and holistic approach involving policymakers, stakeholders, and local communities to effectively navigate watermen's complex challenges in the Chesapeake Bay region. By integrating ecological sustainability and cultural preservation into regulatory frameworks, stakeholders can strive towards ensuring commercial fisheries' long-term viability and resilience while honoring the rich heritage of watermen. Furthermore, participants emphasized the importance of incorporating watermen's perspectives and insights into policy-making processes, recognizing their valuable contributions and unique understanding of the local ecosystem. Inclusivity and active engagement of watermen can facilitate more informed decision-making and enhance the effectiveness of conservation and restoration efforts within the fisheries. To address barriers faced by watermen, it is essential to improve access to resources such as capital, land, and technology while streamlining regulatory processes and licensing requirements to promote greater inclusivity and participation among historically marginalized communities. Through collaborative efforts and inclusive policymaking, stakeholders can work towards a more sustainable and equitable future for watermen and the Chesapeake Bay fisheries.

In conclusion, this study has embarked on a comprehensive exploration of the nuanced factors contributing to the declining involvement of African Americans in the commercial fishing industry, while advancing scholarly inquiry into the Chesapeake Bay region's intricate maritime history and social-ecological dynamics. Through a multifaceted approach, we have unearthed invaluable insights into effective mechanisms for fostering diversity and inclusivity within this industry, recognizing the urgent need for equitable representation and preservation of African American maritime heritage. My research demonstrates the imperative of actively preserving Black maritime history through documentation and

additional initiatives, shedding light on significant events, challenges, and triumphs characterizing African American maritime occupations.

Moving forward, solutions must align efforts for environmental protection with community benefits, increase accessibility of historical information to foster cultural understanding, adapt traditional practices for more informed and sustainable futures, and ensure that grants and funding opportunities directly impact community residents and the resources they need to be self-sustaining. This study highlights the importance of preserving and celebrating Black maritime history while advocating for equitable representation and opportunities within the Chesapeake Bay commercial fishing industry. By embracing leadership, mentorship, and Traditional Ecological Knowledge, future generations can be empowered to carry forward the legacy of African American watermen, promoting sustainability and cultural heritage within the region's fishing industry. The unification of the watermen community is paramount to safeguarding their role from obsolescence and preserving the region's cultural heritage. As we navigate the complexities of past and present, we must remain steadfast in our commitment to recognizing, valuing, and preserving the rich maritime legacy of African Americans within the broader narrative of the Chesapeake Bay fishing industry.

Bibliography

African American Watermen Project. (2021, August 11). The Virginia Department of Historic Resources. Retrieved February 12, 2024, from https://www.dhr.virginia.gov/blog-posts/african-american-watermen-project/

Albuquerque, Ulysses Paulino, et al. "How to Partner with People in Ecological Research: Challenges and Prospects." *Perspectives in Ecology and Conservation*, vol. 17, no. 4, Oct. 2019, pp. 193–200, 10.1016/j.pecon.2019.11.004. Accessed 20 Apr. 2022.

Atkinson, R. (1997) *Gentrification and displacement in London: a theoretical and empirical analysis. Unpublished PhD thesis*, University of Greenwich.

Atkinson, R. and Kintrea, K. (1998) *Reconstructing excluded communities: the neighbourhood impacts of owner occupation* . Edinburgh: Scottish Homes.

Ball, C. (2009). *Slavery in the United States: A Narrative of the Life and Adventures of Charles Ball, a Black Man, Who Lived Forty Years in Maryland, South Carolina A*. Dodo Press.

Baptist, E. E. (2014). The Half Has Never Been Told: Slavery and the Making of American Capitalism. Basic Books.

Beaudreau, Anne H., et al. "Thirty Years of Change and the Future of Alaskan Fisheries: Shifts in Fishing Participation and Diversification in Response to Environmental, Regulatory and Economic Pressures." *Fish and Fisheries*, 11 Apr. 2019, 10.1111/faf.12364. Accessed 20 Apr. 2022.

Berkes, F. (2017). Sacred Ecology. Routledge.

Bernard, H. R. (2006). *Research Methods in Anthropology: Qualitative and Quantitative Approaches*. Lanham, MD: Altamira.

Behl, Mona, et al. ``Changing the Culture of Coastal, Ocean, and Marine Sciences: Strategies for Individual and Collective Actions.” *Oceanography*, vol. 34, no. 3, 1 Sept. 2021, 10.5670/oceanog.2021.307. Accessed 20 Apr. 2022.

Berlin, I. (2003). "Many Thousands Gone: The First Two Centuries of Slavery in North America." Belknap Press.

Bernard, H. R. (2017). *Research Methods in Anthropology: Qualitative and Quantitative Approaches* (Sixth Edition) Rowman & Littlefield. [Review of *Research Methods in Anthropology: Qualitative and Quantitative Approaches*].

Blount, Ben G. “Life on the Water: A Historical-Cultural Model of African American Fishermen on the Georgia Coast (USA).” *NAPA Bulletin*, vol. 28, no. 1, Sept. 2007, pp. 109–122, 10.1525/napa.2007.28.1.109. Accessed 20 Apr. 2022.

Blount, Ben G. "Coastal refugees: Marginalization of African-Americans in marine fisheries of Georgia." *Urban Anthropology and Studies of Cultural Systems and World Economic Development* (2000): 285-313.

Bolster, W. J. (2012). The Mortal Sea: Fishing the Atlantic in the Age of Sail. Harvard University Press.

Bolster, W. J. (1997). *Black Jacks: African American seamen in the age of sail*. Harvard University Press.

Branch, Taylor. (1988). "Parting the Waters: America in the King Years 1954-63." Simon & Schuster.

Burger, Joanna, et al. “Fishing in Urban New Jersey: Ethnicity Affects Information Sources, Pe Ception, and Compliance.” *Risk Analysis*, vol. 19, no. 2, Apr. 1999, pp. 217–229, 10.1111/j.1539-6924.1999.tb00401.x. Accessed 20 Apr. 2022.

Cecelski, D. S. (2012). *The Waterman's Song*. UNC Press Books.

Chambers, E. (2006). *Heritage Matters: Heritage, Culture, History, and Chesapeake Bay*. College Park: Maryland Sea Grant College.

Chan, Maggie N., et al. “Evaluating the Recreational Fishery Management Toolbox: Charter Captains’ Perceptions of Harvest Controls, Limited Access, and Quota Leasing in the Guided Halibut Fishing Sector in Alaska.” *Marine Policy*, vol. 91, May 2018, pp. 129–135, 10.1016/j.marpol.2018.02.013. Accessed 20 Apr. 2022.

Chhaya, P., Stump, A., Halberg, K., Van Opstal, L., & Sullivan, M. (2023, September 18). *Documenting Sites of African American Watermen in Virginia: A closer look at the work of the Chesapeake Mapping Initiative.* Saving Places. Retrieved January 22, 2024, from https://savingplaces.org/stories/chesapeake-mapping-intiative-virginia

Charnley, S., Fischer, A. P., & Jones, E. T. (2007). Integrating traditional and local ecological knowledge into forest biodiversity conservation in the Pacific Northwest. Forest Ecology and Management, 246(1), 14-28.

Cinner, Joshua E., and Örjan Bodin. “Livelihood Diversification in Tropical Coastal Communities: A Network-Based Approach to Analyzing “Livelihood Landscapes.”” *PLoS ONE*, vol. 5, no. 8, 11 Aug. 2010, p. e11999, 10.1371/journal.pone.0011999. Accessed 20 Apr. 2022.

Conner, J. O. (2010). Learning to unlearn: How a service-learning project can help teacher candidates to reframe urban students. *Teaching and Teacher Education*, 26(3), 569-575. https://doi.org/10.1016/j.tate.2010.02.001

Cruikshank, J. (2014). Oral history, narrative strategies, and Native American historiography: Perspectives from the Yukon Territory, Canada. In *Clearing a Path* (pp. 3-28). Routledge.

Cruikshank, J. (2014). *Do Glaciers Listen?: Local Knowledge, Colonial Encounters, and Social Imagination*. UBC Press.

Dillon, M. L. (1990). *Slavery Attacked: Southern Slaves and Their Allies, 1619-1865*. Louisiana State University Press.

Dowling, R., & Newsome, D. (Eds.). (2018). "Chapter 1: Geotourism: definition, characteristics and international perspectives". In *Handbook of Geotourism*. Cheltenham, UK: Edward Elgar Publishing. Retrieved Apr 29, 2024, from https://doi.org/10.4337/9781785368868.00009

Ewart, John, and Susan Ford. *Northeastern Regional Aquaculture Center History and Impact of MSX and Dermo Diseases on Oyster Stocks in the Northeast Region*.

Fitzhugh, B., Butler, V. L., Bovy, K. M., & Etnier, M. A. (2019). Human ecodynamics: A perspective for the study of long-term change in socioecological systems. *Journal of Archaeological Science: Reports*, *23*, 1077–1094. https://doi.org/10.1016/j.jasrep.2018.03.016

Foley, M. M., Feinberg, L. R., & Strang, C. J. (2010). Estimating the economic value of shellfish aquaculture: A revealed preference approach. Journal of Agricultural and Resource Economics, 35(2), 312-327.

Frank, S. M. (1990, January). African Americans in the Maritime Trades. https://www.whalingmuseum.org/sites/default/files/pdf/KWM Monograph Series No 6_African Americans.pdf

Franklin, John Hope, & Schweninger, Loren. (1999). "Runaway Slaves: Rebels on the Plantation." Oxford University Press.

Fulton, Elizabeth A, et al. “Human Behaviour: The Key Source of Uncertainty in Fisheries Management.” *Fish and Fisheries*, vol. 12, no. 1, 17 Aug. 2010, pp. 2–17, 10.1111/j.1467-2979.2010.00371.x. Accessed 20 Apr. 2022.

Gale, R. P. (1991). Gentrification of America’s coasts: Impacts of the growth machine on commercial fishermen. *Society & Natural Resources*, *4*(2), 103–121. https://doi.org/10.1080/08941929109380747

Economist Impact. (n.d.). *Global Maritime Trends 2050*. Economist Impact. Retrieved February 12, 2024, from https://impact.economist.com/ocean/global-maritime-trends-2050/downloads/Global%20Maritime%20Trends%202050%20Report.pdf

Gray, S. A., Gray, S. R., De Kok, J. L., Helfgott, A., O'Dwyer, B., Jordan, R., ... & Nyboer, J. (2016). Using social-ecological systems theory to evaluate large-scale comanagement efforts: A case study from Alaska’s Bering Sea. Marine Policy, 74, 323-333.

Harris, J., Bilkovic, D., Hines, A., & Landry, C. (2017). Social and ecological drivers of landings trends in a small-scale, coastal commercial fishery. Ocean & Coastal Management, 138, 1-8.

Hesed, C. D. M. (2016). *Integrating environmental justice and social-ecological resilience for successful adaptation to climate change: Lessons from african american communities on*

the eastern shore of the chesapeake bay (Order No. 10159067). Available from ProQuest Dissertations & Theses Global. (1840191781). Retrieved from https://www.proquest.com/dissertations-theses/integrating-environmental-justice-social/docview/1840191781/se-2

Hoskins‐Brown, Dionne L. "Tales of Landings and Legacies: African Americans in Georgia's Coastal Fisheries." *Culture, Agriculture, Food and Environment*, vol.

Huang, H., & Coker, A. D. (2010). Examining Issues Affecting African American Participation in Research Studies. *Journal of Black Studies*, *40*(4), 619–636. http://www.jstor.org/stable/40648531

Hutchins, R. M. (1941). America and the War. *The Journal of Negro Education*, *10*(3), 435–441. https://doi.org/10.2307/2292746

Ingles, Palma. "Anthropology and Fisheries Management in the United States." *NAPA Bulletin*, vol. 28, no. 1, Sept. 2007, pp. 1–13, 10.1525/napa.2007.28.1.1. Accessed 20 Apr. 2022.

Janssen, Marco A., et al. "Toward a Network Perspective of the Study of Resilience in Social-Ecological Systems." *Ecology and Society*, vol. 11, no. 1, 2006, 10.5751/es-01462-110115. Accessed 20 Apr. 2022.

Jensen, Alex J, et al. "Attracting Diverse Students to Field Experiences Requires Adequate Pay, Flexibility, and Inclusion." *BioScience*, vol. 71, no. 7, 14 Apr. 2021, pp. 757–770, 10.1093/biosci/biab039. Accessed 20 Apr. 2022.

Jepson, Michael, and Lisa Colburn. *Development of Social Indicators of Fishing Community Vulnerability and Resilience in the U.S. Southeast and Northeast Regions*.

Johnson, D. W., Johnson, R. T., & Stanne, M. B. (2000). Cooperative learning methods: A meta-analysis. Minneapolis: University of Minnesota.

Kaplan, J., & Valls, A. (2007). Housing Discrimination as a Basis for Black Reparations. *Public Affairs Quarterly*, *21*(3), 255–273. http://www.jstor.org/stable/40441462

Karakasnaki, M., Pantouvakis, A., & Vlachos, I. (2023). Maritime social sustainability: Conceptualization and scale development. *Transportation Research Part D: Transport and Environment*, *121*, 103804. https://doi.org/10.1016/j.trd.2023.103804

Kasperski, Stephen, and Daniel S. Holland. "Income Diversification and Risk for Fishermen." *Proceedings of the National Academy of Sciences*, vol. 110, no. 6, 22 Jan. 2013, pp. 2076–2081, 10.1073/pnas.1212278110. Accessed 20 Apr. 2022.

Kelling, I., & Lawan, I. (2023). Equality, diversity and inclusion: A way forward for aquaculture in Scotland. *Frontiers in Aquaculture*, 4, 1151853. https://doi.org/10.3389/faquc.2023.1151853

Kennedy, V. S., & Breisch, L. L. (1983). Sixteen decades of political management of the oyster fishery in Maryland's Chesapeake Bay. *Journal of Environmental Management, 16*, 153-171.

Kennedy, V. S. (2018). *Shifting Baselines in the Chesapeake Bay: An Environmental History*. Johns Hopkins University Press.

Lenzerini, F. (2011). Intangible Cultural Heritage: The Living Culture of Peoples. *European Journal of International Law*, *22*(1), 101–120. https://doi.org/10.1093/ejil/chr006

Livie, K. (2015). *Chesapeake Oysters: The Bay's Foundation and Future*. American Palate.

Lipcius, Romuald & Eggleston, David & Fodrie, F. & van der Meer, Jaap & Rose, Kenneth & Vasconcelos, Rita & Van de Wolfshaar, K.E.. (2019). Modeling Quantitative Value of Habitats for Marine and Estuarine Populations. Frontiers in Marine Science. 6. 10.3389/fmars.2019.00280.

Mamary, Albert James M., "African-American Influence on the Chesapeake Bay Log Canoe: Evidence from Nineteenth Century Probate Inventories and Population Census Records of York County, Virginia and Worcester County, Maryland" (1994). Dissertations, Theses, and Masters Projects. Paper 1539625862. https://dx.doi.org/doi:10.21220/s2-x6q3-8s77

Mann, R., Hines, A., Powell, A., & Williams, C. (2013). African American watermen of Chesapeake Bay: Perspectives on environmental change, ecosystem services, and implications for resilience. Ecology and Society, 18(4), 34.

Meyer, E. L. (1987, August 7). MD. LAW DRIVES UP WATERFRONT PRICES. *Washington Post*.https://www.washingtonpost.com/archive/local/1987/08/07/md-law-drives-up-waterfront-prices/5ea584c2-940e-43ab-aafc-4eba81ee2cf9/

Michaelis, Adriane. "The Practice of Everyday Oystering: Aquaculture as Resistance Understanding Participation in Maryland Oyster Aquaculture View Project Cultural Ecosystem Services Enabled in Work through Farmed and Wild Shellfisheries View Project." *Article in Journal of Political Ecology*, 2021, 10.2458/jpe.2845. Accessed 20 Apr. 2022.

Michaelis, Adriane K., et al. "The Role of Ecosystem Services in the Decision to Grow Oysters: A Maryland Case Study." *Aquaculture*, vol. 529, Dec. 2020, p. 735633, 10.1016/j.aquaculture.2020.735633. Accessed 20 Apr. 2022.

Miller, Alan C. (2004). "Gentry and Common Folk: Political Culture on a Virginia Frontier 1740-1789." University of Kentucky Press.

Miller Hesed, C. D., & Paolisso, M. (2015). Cultural knowledge and local vulnerability in African American communities. *Nature Climate Change*, *5*(7), 683–687. https://doi.org/10.1038/nclimate2668

Montgomery, M. R., Stren, R., Cohen, B., & Reed, H. E. (2013). Cities Transformed: Demographic Change and Its Implications in the Developing World. In *Google Books*. Routledge. https://books.google.com/books?hl=en&lr=&id=8dneAQAAQBAJ&oi=fnd&pg=PP1&dq=As+towns+begin+changing+prominent+demographics+within+the+entirety+of+the+community

Nordstrom, K. F., Rikard, F., & Stoll, J. S. (2018). From privilege to progress: A model for industry‐led programs to advance diversity and inclusion in commercial fisheries. Conservation Letters, 11(2), e12362.

O'Grady, Elizabeth Marie, ""You have No Boss Here to Work For": Women and Labor in Chesapeake Bay Fishing Communities" (2010). Dissertations, Theses, and Masters Projects. William & Mary. Paper 1539626614. https://dx.doi.org/doi:10.21220/s2-386q-g854

Orth, Robert & Dennison, William & Lefcheck, Jonathan & Gurbisz, Cassie & Hannam, Michael & Keisman, Jennifer & Landry, J. & Moore, Kenneth & Murphy, Rebecca & Patrick, Christopher & Testa, Jeremy & Weller, Donald & Wilcox, David. (2017). Submersed Aquatic Vegetation in Chesapeake Bay: Sentinel Species in a Changing World. BioScience. 67. 698-712. 10.1093/biosci/bix058.

Paolisso, M., Hall, T., Sellars, E., & Biermann, L. (2012). Climate change, justice, and adaptation among African American communities in the Chesapeake Bay region. Weather, Climate, and Society, 4(1), 34-47. https://doi.org/10.1175/wcas-d-11-00002.1

Paolisso, M., Weeks, P., & Packard, J. (2013). A Cultural Model of Farmer Land Conservation. *Human Organization*, *72*(1), 12–22. http://www.jstor.org/stable/44148678

Poe, M. R., Norman, K. C., Levin, P. S., & Feinholz-Messer, C. (2013). Cultural dimensions of socioecological systems: Key connections and guiding principles for conservation in coastal environments. Conservation Letters, 7(3), 166-175. https://doi.org/10.1111/conl.12003

Power, N. G., Norman, M. E., & Dupré, K. (2014). "The fishery went away": The impacts of long-term fishery closures on young people's experience and perception of fisheries employment in Newfoundland coastal communities. *Ecology and Society*, *19*(3). http://www.jstor.org/stable/26269596

Perez, A. D., & Hirschman, C. (2009). The changing racial and ethnic composition of the US population: Emerging American identities. Population and Development Review, 35(1), 1-51. https://doi.org/10.1111/j.1728-4457.2009.00260.

Quimby, B., & Levine, A. (2018). Participation, power, and equity: Examining three key social dimensions of fisheries comanagement. Sustainability, 10(9), 3324. https://doi.org/10.3390/su10093324

Rust, N. A., Abrams, A., Challender, D. W., Chapron, G., Ghoddousi, A., Glikman, J. A., … Hill, C. M. (2017). Quantity does not always mean quality: The importance of qualitative social science in conservation research. Society & Natural Resources, 30(10), 1304–1310.

Rotenstein, David S. "Producing and Protesting Invisibility in Silver Spring, Maryland." In Demand the Impossible: Essays in History as Activism, edited by Nathan Wuertenberg and William Horne, 89–111. Washington D.C.: Westphalia Press, 2018.

Salas, S., & Gaertner, D. (2004). The behavioural dynamics of fishers: Management implications. Fish and Fisheries, 5(2), 153-167. https://doi.org/10.1111/j.1467-2979.2004.00141.x

Schermerhorn, C. (2011). Money over mastery, family over freedom. JHU Press.

Scott-Jones, G., CAADC, Kamara, M. R., & PE (2020). The Traumatic Impact of Structural Racism on African Americans. Delaware journal of public health, 6(5), 80–82.

Silva, M. R. O., M. G. Pennino, and P. F. M. Lopes. 2019. Social-ecological trends: managing the vulnerability of coastal fishing communities. *Ecology and Society* 24(4):4.

https://doi.org/10.5751/ES-11185-240404

Sinha, M. (2016). The Slave's Cause: A History of Abolition. Yale University Press.

Small, C. L. (2019). The Last Black Skipjack Captain.

Smith, J. A., Flower, P., & Larkin, M. (2009). Interpretative Phenomenological Analysis: Theory, Method and Research. *Qualitative Research in Psychology*, 6(4), 346–347.

Taylor, Dorceta E. (2018). Enhancing Racial Diversity in the Association for Environmental Studies and Sciences. Journal of Environmental Studies and Sciences, 8(4), 379–384. https://doi.org/10.1007/s13412-018-0515-6

Thanh, Hoang Trung, et al. (2020). Tracing Environmental and Livelihood Dynamics in a Tropical Coastal Lagoon through the Lens of Multiple Adaptive Cycles. Ecology and Society, 25(1). https://doi.org/10.5751/ES-11345-250102

Thompson, Cameron & Johnson, Teresa & Hanes, Samuel. (2016). Vulnerability of fishing communities undergoing gentrification. Journal of Rural Studies. 45. 165-174. 10.1016/j.jrurstud.2016.03.008.

Tolnay, Stewart E., & Beck, E. M. (1995). "A Festival of Violence: An Analysis of Southern Lynchings, 1882-1930." University of Illinois Press.

Thornton, P.K., Ericksen, P.J., Herrero, M. and Challinor, A.J. (2014), Climate variability and vulnerability to climate change: a review. Glob Change Biol, 20: 3313-3328. https://doi.org/10.1111/gcb.12581

Turner, N. J., Ignace, M. B., & Ignace, R. (2013). *Traditional Ecological Knowledge and Wisdom of Aboriginal Peoples in British Columbia*. In Protecting Indigenous Knowledge and Heritage (pp. 373-389). Springer.

Weeratunge, Nireka, et al. (2010). Gleaner, Fisher, Trader, Processor: Understanding Gendered Employment in Fisheries and Aquaculture. Fish and Fisheries, 11(4), 405–420. https://doi.org/10.1111/j.1467-2979.2010.00377.x

Wennersten, J. (2007). *The Oyster Wars of Chesapeake Bay*. Eastern Branch Press.

Wesley, C. H. (1967). *The Negro in the United States*. Oxford University Press.

Whitman, T. S. (2007). *Challenging Slavery in the Chesapeake: Black and White Resistance to Human Bondage, 1775–1865*. Maryland Historical Society.

Wilen, J. E., Smith, M. D., Lockwood, D., & Botsford, L. W. (2002). Avoiding surprises: incorporating fisherman behavior into management models. Bulletin of Marine Science, 70(2), 553-575.

Wilson, Sacoby M. (2009). An Ecological Framework to Study and Address Environmental Justice and Community Health Issues. Environmental Justice, 2(1), 15–24. https://doi.org/10.1089/env.2008.0515

Wood, B. (1997). "The Origins of American Slavery: Freedom and Bondage in the English Colonies." Hill and Wang.

Yow, V.R. (2015). Recording Oral History: A Guide for the Humanities and Social Sciences. 3rd Edition. Rowman & Littlefield, New York.

Young, Talia, et al. (2018). Adaptation Strategies of Coastal Fishing Communities as Species Shift Poleward. ICES Journal of Marine Science, 76(1), 93–103. https://doi.org/10.1093/icesjms/fsy140

Zukin, S. (1987). Gentrification: Culture and Capital in the Urban Core. Annual Review of Sociology, 13(1), 129–147. https://doi.org/10.1146/annurev.so.13.080187.001021