ABSTRACT

Title of Thesis: MARYLAND, THE MARINE HOSPITAL SERVICE, AND THE MEDICAL RELIEF OF CHESAPEAKE OYSTER DREDGERS, 1870-1900.

Austin Todd Kibler, Master of Arts, 2017

Thesis Directed By: Professor Thomas Zeller, Ph.D.
Department of History

The thesis will be challenging the notion that the federal government took a hands-off approach to industrial health during the Gilded Age by examining the stances taken by the Maryland government and that of the federal Marine Hospital Service (MHS) in specific relation to oyster dredgers of the Chesapeake Bay. It will highlight the important role played by newly professionalized bureaucracies in developing public policy through its examination of the creation of the MHS Relief Station at Solomons Island in Southern Maryland. It will also show that policymakers viewed the Chesapeake Bay as an industrial space and how that construction refracted responses to the oyster dredgers' health problems.

# MARYLAND, THE MARINE HOSPITAL SERVICE, AND THE MEDICAL RELIEF OF CHESAPEAKE OYSTER DREDGERS, 1870-1900

by

Austin Todd Kibler

Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Master of Arts in History
2017

Advisory Committee:
Professor Thomas Zeller, Ph.D., Chair
Dr. Robert Chiles, Ph.D.
Professor Chantel Rodriguez, Ph.D.

Acknowledgments

First and foremost thanks must be given to Tom Zeller for his guidance, support, and occasional puns these past three years—and yes, we are still on speaking terms. I would like to also thank Chantel Rodriguez and Robert Chiles for agreeing to sit on this committee. Special mention needs to be made of the staff at the National Archives at College Park, the Maryland State Archives, and the Paul L. Berry Reference Library at the Calvert Marine Museum. Without them I would not have found as many useful documents. Digitization has changed the nature of research by granting historians access to more records and the access provided by the University System of Maryland & Affiliated Institutions Library Consortium cannot be overlooked. Finally, no project of this scale can be completed without the support of friends and family. Thank you: Brett Kibler, Chris Carter, Chuck Finley, Roger Bailey, Todd and Wendy Kibler. Your input and support was much appreciated. Ultimately, though, this product is the responsibility of the author, and so any omissions, mistakes, or typos are my own—or the result of a printing error.

Table of Contents

List of Figures

# Introduction

In December 1889, Dr. Walter Wyman of the United States Marine Hospital Service penned a letter noting that the decommissioned revenue cutter the *E.A. Stevens* could be a "temporary shelter hospital for the relief of the sick and disabled [oystermen] . . . at the mouth of the Patuxent River [Maryland]." Wyman instructed that J.A. Stevens, an engineer, be engaged to inspect the *Stevens*, but that this must be done swiftly for the "vessel must necessarily be put into condition with out [sic] delay." [1] On January 17th, Secretary of the Treasury William Windom (1889-1891) transferred the *Stevens* from the United States Revenue-Marine to the Marine Hospital Service.[2] Eleven days later it was anchored off Drum Point in the Patuxent River. That very day several oystermen came to the "floating hospital," as the press called it, seeking treatment.[3] The following year a permanent structure was established in nearby Solomons Island in Calvert County, Maryland.[4] Relief Stations of the Marine Hospital Service provided care in an out-patient capacity (although, some patients would spend a couple of days recovering at the facility), while MHS hospitals provided long-term care.

[1] Walter Wyman, "Letter to Medical Officer in Command, Baltimore," December 30, 1889, Vol. 74, RG 90. NARA, College Park, MD.
[2] Special Dispatch to the Baltimore Sun, "From Washington: The New Postmaster of Baltimore Confirmed Without Delay No Objections to Mr. Johnson Reported from Committee and Confirmed the Same Day--Preparing to Occupy the New Postoffice--A Floating Hospital for Dredgers," *The Sun (1837-1990)*, January 17, 1890.
[3] Richard J. Dodds, "In Time of Need--The Solomons 'Marine Hospital', 1890-1930," *The Bugeye Times, Quarterly Newsletter of the Calvert Marine Museum*, Winter 1994, 1; "[No Title]," *The Sun*, 1876; *Calvert Gazette*, February 1, 1890; "Dredgers' Floating Hospital: The Revenue Marine Steamer E A Stevens in a New Role--Port Paragraphs," *The Sun (1837-1990)*, January 6, 1890; "A Floating Infirmery," *Calvert Gazette*, January 11, 1890; Feb 17 Special Dispatch to the Baltimore Sun Washington, "Medical Aid for Dredgers: Oyster Captains Charged with Avoiding the Floating Hospital," *The Sun (1837-1990)*, February 18, 1890; Sun, "From Washington."
[4] John B. Hamilton, "Letter to Dr. William Marsh," October 20, 1890, Vol. 78, RG 90. NARA, College Park, MD.

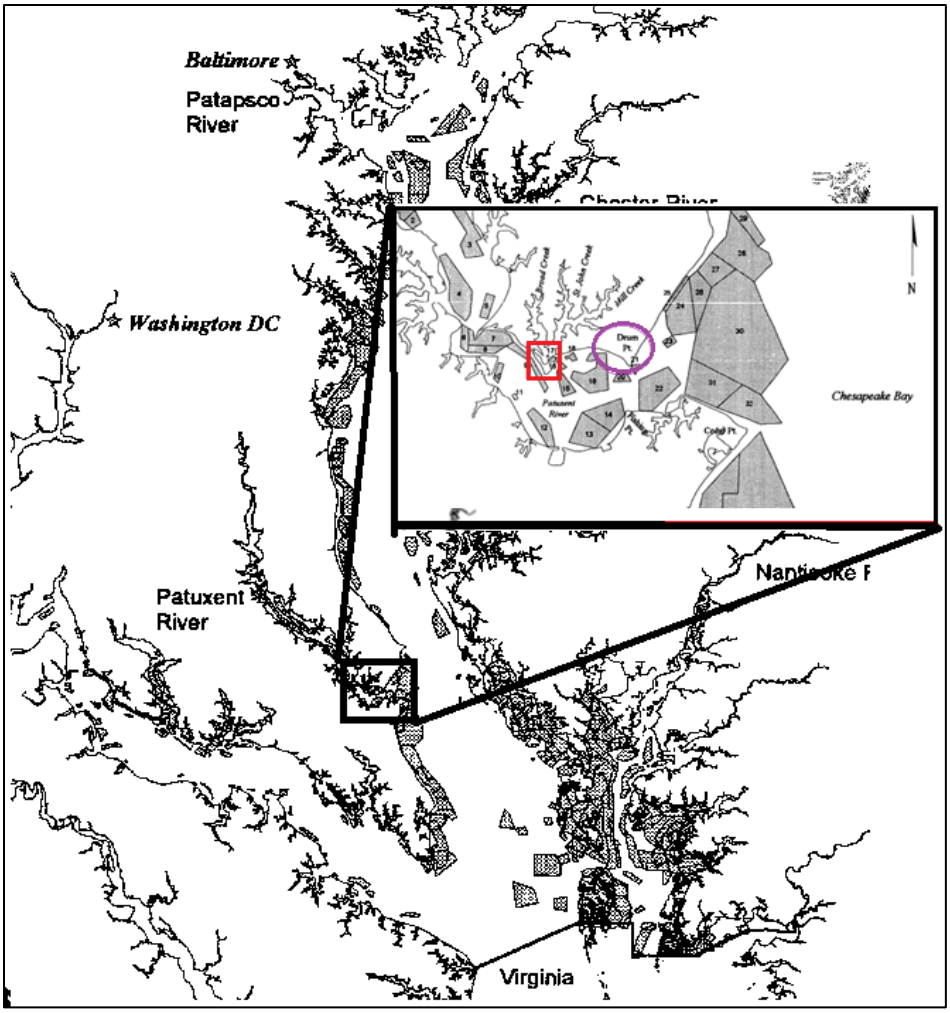



Figure 1: A map of Maryland showing major oyster bars, with a cutout showing the Solomons Island area of the Patuxent River. The area in the red box is Solomons Island, and Drum Point is in the violet circle. Images from: "Maryland's Historic Oyster Bottom: A Geographic Representation of the Traditional Named Oyster Bars." Maryland Department of Natural Resources. October 1997.

Why, though, was the Marine Hospital Service (MHS) concerned about the medical relief of oystermen in Maryland; what were the factors that pushed the MHS to intervene, and what prevented the state of Maryland from doing so?

This thesis will explain what factors led the MHS to provide medical relief to Maryland oystermen which occurred in the context of the MHS's expansion and transition toward becoming the Public Health Service. In doing so, it will argue for understanding the Chesapeake

Bay as an industrial space in addition to an environmental feature, making use of the ideas put forth by Sara Pritchard in *Confluences*. Pritchard argues that environmental features are also non-environmental constructions, which she refers to as hybrid spaces.[5] Pritchard examines the Rhône River in France as an environmental technology—the use of the river, for example, to run nuclear power plants made the Rhône a technology for nuclear engineers—this thesis will consider the Chesapeake Bay as an industrial area of production in addition to being an environmental space.[6] This industrial/economic understanding constructed a lens through which policymakers viewed the Chesapeake Bay. Likewise, this thesis will make use of the argument put forth by Pritchard and Thomas Zeller in "The Nature of Industrialization" that economic spaces, and especially industrialized spaces, in the nineteenth century cannot escape their connection to nature, or the nature of their geography. [7] Industrialization altered, but did not change humanity's connection to nature; textile mills still used cotton (a plant product) which never lost its natural qualities, and coal (another plant product) powered nineteenth century society.[8] Though the Bay was an economic area, it was also an environmental feature. The Bay was not just brackish because salt and fresh water mixed; it was brackish because of the mixture of man and nature.

Congruently, this thesis will explore the growing importance of medical professionalization in the late nineteenth century United States. It will make heavy use of Paul

[5] Sara B. Pritchard, *Confluence : The Nature of Technology and the Remaking of the Rhône* (Cambridge, MA: Harvard University Press, 2011).
[6] Ibid., 4–7. Different groups used the Rhône for different technological ends, and this influenced how they viewed the hybridization of the Rhône. Thus, farmers had a much different conception of the river as a technology than nuclear engineers; these multiple technological uses of the river meant he Rhone became a contested enviro-tech space.
[7] Thomas Zeller and Sara Pritchard, "The Nature of Industrialization," in *The Illusory Boundary Environment and Technology in History*, ed. Martin Reuss and Stephen H. Cutcliffe (Charlottesville, VA: University of Virginia Press, 2010).
[8] Ibid., 75. "It takes technological failures . . . to remind westerners of the continued presence [of nature] in their homes, cities."(72)

Starr's focus on the medical profession's cultural authority resulting from reforms during the last half of the nineteenth century.[9] By the end of the nineteenth century Progressive reformers were starting to scrape away at the lethargy of the Gilded Age by pressing for more interventionist government regulations and programs. This movement started at the local level and clawed its way up the federalized power structure in the United States.[10] This thesis will expand upon the notion that the federal government did not take an entirely hands-off approach to public health during the Gilded Age. By examining the stances taken by the Maryland government and that of the MHS in specific relation to oyster dredgers it will show that the federal government was in fact involved in providing medical relief whereas the state was not. This thesis will also highlight the important role played by the newly professionalized medical bureaucracy in developing public policy by examining the creation of the MHS Relief Station in Solomons Island.

The last half of the nineteenth century was particularly formative for the American medical profession. The cultural authority assigned to unbiased experts in medicine paralleled the changes that were occurring within the wider cultural fabric of the United States.[11] The combination of professionalism and authority was most prominent in the twentieth century as a result of the momentum built by late nineteenth century reforms. This authority and independence granted agencies greater self-determination over the allocation of their resources. This does not mean that every agency charged forward with New Deal zeal, but that a

[9] Paul Starr, *The Social Transformation of American Medicine* (New York, NY: Basic Books, 1982), 13-15. – *Cultural authority* is where authority is granted to an institution through its ability to construct truth through defining facts. This is contrasted to *social authority* which is simply the ability to giver orders. Cultural authority is exercised in an indirect manner, and more importantly, is in the case of professionalization used as a base for social authority.

[10] Morton. Keller, *Affairs of State : Public Life in Late Nineteenth Century America* (Cambridge, MA: Belknap Press of Harvard University Press, 1977); Theda. Skocpol, *Protecting Soldiers and Mothers : The Political Origins of Social Policy in the United States* (Cambridge, MA: Belknap Press of Harvard University Press, 1992); John Duffy, *The Sanitarians : A History of American Public Health* (Urbana, IL: University of Illinois Press, 1992).

[11] Edwin T. Layton, *The Revolt of the Engineer: Social Responsibility and the American Engineering Profession* (Cleveland, OH: Press of Case Western Reserve University, 1971).

bureaucracy's self-understanding of its mission decided how its authority would be applied. The oystermen of Maryland faced some significant health dangers that the Maryland Board of Health did not consider within their purview. The MHS, however, did consider providing medical relief to oystermen to be part of their expanding prerogative. This thesis argues that professional government agencies played a significant role in deciding how the government would react to industrial health problems, a role defined by an agency's understanding of its mission.

Connected to this, the thesis will show the influences of late nineteenth century ideas of industrial safety limited the liability of employers and controlled how the state of Maryland chose to react to the health risks faced by oyster dredgers. As is shown by Morton Keller and Arwen Mohun, the *fellow servant rule, doctrine of assumed risk,* and *contributory negligence* severely limited the legal avenues a worker could navigate to received compensation for an injury.[12] In essence, these ideas served to place the loci of responsibility for safety on the employee, not the employer. In *Affairs of State,* Keller demonstrates that many judges and legislatures held a "pro-employer bias" and were also concerned about the "social disorder" that would arise if workers could sue employers for damages.[13] These factors made it extremely difficult for workers to receive any relief, medical or financial, from injuries suffered in their place of employment. On the Chesapeake Bay, the only cases of an oyster dredger successfully

[12] Keller, *Affairs of State*; Arwen Mohun, *Risk : Negotiating Safety in American Society* (Baltimore, MD: Johns Hopkins University Press, 2013). Contributory Negligence: an employee could not claim compensation form an employer for an injury if the said employee was found to be negligent in his actions. Doctrine of Assumed Risk: an employee, upon accepting employment, assumed all the risks associated with said employment. Fellow Servant Rule: an employer is not held liable for an employee's injury if another employee's negligence is found to have caused the first employee's injury. (Steven Gifis, *Dictionary of Legal Terms : A Simplified Guide to the Language of Law*. Hauppauge, N.Y.: Barron's Educational Series, Inc, 1998.)
[13] Keller, *Affairs of State,* 404.

receiving recompense for an injury were in cases where skipjack captains assaulted a hand.[14] In cases of industrial injury, oyster dredgers had no legal recourse to acquire medical aid.

Though John Wennersten, Christine Keiner, and Andrew Habermacher have all written about the health of oystermen, it has either been as an aside (in the case of Wennersten and Keiner) or not in a historical context (Habermacher's 1986 work focused on contemporary oystermen). Studying the roles of bureaucracies adds to the historiography of industrial health by helping to understand how the government provided for the health of workers. The focus of both the State Board of Health for Maryland and MHS was instrumental in deciding how these bureaucracies understood industrial health problems. Importantly, this thesis will suggest that historians should have some elasticity when looking at the role of the federal government in health. Additionally, where most books looking at federal action on health focus on politics and interest groups, this thesis will show that a largely apolitical professional agency acted to provide medical care to individuals that were not receiving any relief. This thesis will add to the historiography of the enlargement of the federal government by showing that the federal bureaucracy intervened in industrial health before the Progressive reforms of the twentieth century.

Chapter I provides a historical background to the Maryland oyster industry. In particular, it highlights the importance of the industry to Maryland's economy and politics. It also differentiates between the two methods of oyster harvesting (tonging and dredging) and notes why such a distinction is important to industrial health.

Chapter II looks at how the government of Maryland responded to this and explores the creation of the Maryland Board of Health and its focus on establishing a professionalized class of

[14] Correspondence of the Baltimore Sun, "The State of Maryland Oystermen Complain of Cruel Treatment: Warrants Issued at Annapolis Two Arrests for Illegal Dredging--Marriage of the Rev. John P. Campbell at Salisbury--Fatal Accident In Frederick County," *The Sun (1837-1990)*, February 28, 1890.

physicians in the state. In explaining why Maryland failed to react to the oysterman health gap this chapter will highlight the Board of Health's preoccupation with providing for general sanitation over specialized medical care. This chapter will also show how the state's view of oyster dredgers influenced its reaction to the health problems dredgers faced.

Chapter III will explore the expansion of the Marine Hospital Service. In doing so, it will show that the MHS leveraged the new professionalization of the medical profession in the late nineteenth century to build a momentum of expansion throughout the nation. This professionalism, coupled with its sympathetic view of the plight faced by oyster dredgers, resulted in the MHS establishing a relief station in Southern Maryland.

## Chapter 1: The Chesapeake Bay, the Oyster, and the Oyster Dredger

The Chesapeake Bay is the main geographic feature of Maryland and has played a prominent role in Maryland's economy. In addition to serving as an entry point for foreign and domestic trade via the Baltimore Harbor, the Chesapeake was a major fishery in the nineteenth and much of the twentieth centuries. So significant were the Bay's resources that many contemporaries and historians have called it an "immense protein factory," this is perhaps one of the few instances where such an adjective is not a hyperbole.[15] The oyster industry in late nineteenth century Maryland was one of the largest industries in the state.[16] During the sector's peak, in the 1880s, it employed one-fifth of the state's workforce and produced one-third of the world's oysters.[17] The income for the state generated by the industry was less impressive due to the low tax rate on oystering; in 1894, for example, the Treasury received fifty thousand dollars while spending fifty-four thousand to collect that money. It is important to bear in mind that the state only received tax money from dredging vessels. Dredgers were taxed on the tonnage of the skipjack (in 1894 that was a rate of five dollars per ton with skipjacks averaging 22 tons), along with a small tax on each bushel harvested. This tax was paid directly to the state.[18] On the other hand, tongers paid their taxes to the counties.[19]

---

[15] John Capper, Garrett. Power, and Frank R. Shivers, *Chesapeake Waters: Pollution, Public Health, and Public Opinion, 1607-1972,* (Centreville, MD: Tidewater Publishers, 1983), 76.

[16] Shipping accounted for a decent percentage of the economy—and today the Port of Baltimore is still vital, with 5 billion dollars of good passing through it in 2015. With the completion of the Baltimore and Ohio Rail Road in 1845, the city became a "commercial gateway." ("Port of Baltimore, Maryland," accessed February 9, 2017, http://msa.maryland.gov/msa/mdmanual/01glance/html/port.html.)

[17] Christine Keiner, *The Oyster Question: Scientists, Watermen, and the Maryland Chesapeake Bay since 1880,* (Athens, GA: University of Georgia Press, 2010), 36.

[18] Charles H. Stevenson, "The Oyster Industry of Maryland.' in, *Sixth Biennial Report for the Bureau of Industrial Statistics and Information of Maryland, 1894-'95*, (pp: 270-385), 1895, Courtesy of the Maryland State Archives.

[19] Maryland is unique among the states in that its power structure is highly devolved.

This dispersion in tax collection was a result of the Maryland General Assembly dividing the Bay's topography into specific production zones of state and county waters in 1865, with each area designated for a specific and specialized method of oyster extraction. Dredging (also called scraping) consisted of a mechanical apparatus attached to a skipjack to scrape oysters from the bottom of the Bay, could only be done in state waters.[20] Tonging relied on using a hand tool, tongs, to gather oysters and was limited to county waters. County waters were defined as the area within three hundred yards of the shore during low tide. Considering this labor division by space and action, it is easy to conceptualize the Bay as a constructed industrial space much like a standard industrial factory, with areas dedicated to specific production techniques and each with their specific technologies. However, more to the point for contemporaries, the Bay also produced oysters at such a high rate that its output was almost like a factory. On the Chesapeake dredging was similar to factory work, requiring little professional skill and conducted on a contractual basis. Tonging, however, operated under a preindustrial system where each tonger was his own boss and owner of his equipment. Dredgers were paid a seasonal wage, receiving their salary regardless of whether the haul was large or small. Tongers earned money based on how many bushels they harvested. Each occupational type presented a similar, but also unique, set of health and safety problems.

Few works have exclusively addressed the health of oystermen, and none have done so as history. Examinations of oystermen health are part of wider historical examination. In his 1986 anthropology dissertation, Andrew Habermacher examines the life, including healthcare, of contemporary oystermen in Somerset County, and includes a chapter that provides a historical

[20] Skipjacks were designed specifically to dredge for oysters. They had large sails to take full advantage of the wind and were low to the water to make it easier to pull dredges onto the deck. A more detailed description may be found in the glossary.

context.[21] He found that even in 1986 Maryland's Eastern Shore had few medical facilities, and those that were present lacked the equipment to treat serious injuries and diseases forcing the infirm to travel to Baltimore.

It would be imprudent to discuss the historiography of the Chesapeake without mentioning John Wennersten. His 2001 book *The Chesapeake* is a biography of the environmental feature starting from pre-European usage and finishing with conservation efforts at the end of the twentieth century. In *The Chesapeake,* Wennersten examines human interactions with the Chesapeake, including the oyster industry's impact on the Bay. This environmental history includes glimpses of the dangers faced by Chesapeake oystermen. Wennersten's "The All Mighty Oyster" and *The Oyster Wars of the Chesapeake* are more targeted examinations of the oyster industry.[22] In "The All Mighty Oyster," Wennersten looks specifically at the central role Maryland's expanded railroad network played in allowing the oyster industry to boom. *The Oyster Wars* follows the Maryland Oyster Navy, a poorly equipped fleet of decommissioned Naval and Coast Guard vessels that attempted to prevent oyster poaching, keep the peace between dredgers and tongers, and stop Virginians from harvesting oysters in Maryland waters.[23]

---

[21] Andrew Lee Habermacher, "Work and Health of the Chesapeake Bay Commercial Fishermen of Somerset County, Maryland" (Ph.D. Dissertation, University of Florida, 1986), http://ufdc.ufl.edu/UF00103067/00001.-- For oysterman of the twentieth century, skin cancer, cuts—and subsequent infection—of the hand, cold/flu, back problems, and body trauma were the most common health concerns. (163-195) For more detailed breakdown, including divergent views of health risk between oystermen and medical provides, see pages 186-194.

[22] John R. Wennersten, "The All Mighty Oyster: A Saga of Old Somerset and the Eastern Shore, 1850-1920," *Maryland Historical Magazine* 74, no. 1 (March 1979): 80–93; John R. Wennersten, *The Oyster Wars of Chesapeake Bay*, 1st ed. (Centreville, MD: Tidewater Publishers, 1981).

[23] Wennersten, *The Oyster Wars of Chesapeake Bay*, 1981, 122–27.— The term "oyster war" is worthy, with gunfire frequently exchanged on the Bay, between oyster policemen and oystermen, dredgers and tongers, and Marylanders and Virginians. The death of Berkley Muse in 1959 at the hands of a trigger-happy police force prompted Maryland and Virginia to create a bi-state commission to settle the matter of oyster poaching between the two states. Prior to this the state could be said to be in a quasi-war, with the governors of each state going as so far as to public denounce his counterpart. Poachers would be arrested by their respective state law enforcement agencies, and given a slap on the wrist.

In *The Oyster Wars*, and to a lesser extent *The Chesapeake*, Wennersten also describes the unique culture of Tidewater, and especially Eastern Shore, oystermen. In "Landscapes of Resistance," Bradford Botwick and Debra McClane delve deeper into the culture of the oysterman by differentiating between the preindustrial tongers and the industrialized dredging fleet.[24] They show that in Maryland oystering had two different labor systems. Christine Keiner's *The Oyster Question* furthers this examination of the oyster industry.[25] Her examination is less concerned with the culture of the oysterman and instead focuses on Maryland's attempts to govern the oyster commons. The "oyster question" was whether the oyster beds should be a common resource or if they should be privatized. Keiner's focus is on the confrontation between Annapolis-appointed scientific experts and the politically empowered rural oystermen. The scientists advocated for a privatized farming method, which would allow for better scientific management of the resource, while oystermen fought to defend their economic independence through keeping the grounds public.

That oyster dredgers faced health hazards has been hinted at by historians, but not fully fleshed out as the main focus of a historical study. This is not to say they ignore the plight of the oyster dredger— Wennersten and Keiner each dedicate a chapter to examining the industry and its workforce— but the hazards faced by oystermen were tangential to the larger historical examination.[26] This thesis is primarily concerned with the workers in this agricultural assembly line, and how the government at the state and federal level chose to interact with them. However, to understand this, we must first understand the Chesapeake Bay and the Maryland oyster industry.

---

[24] Bradford Botwick and Debra A. McClane, "Landscapes of Resistance: A View of the Nineteenth-Century Chesapeake Bay Oyster Fishery," *Historical Archaeology* 39, no. 3 (2005): 94–112.
[25] Keiner, *The Oyster Question*, 2010.
[26] Ibid., chap. 1; Wennersten, *The Chesapeake*, chap. 4; Wennersten, *The Oyster Wars of Chesapeake Bay*, chap. 1, 3, & 5

*The Chesapeake*

The oyster industry was one of three main phases of fishery extraction that occurred in the Chesapeake Bay following colonization. The first major fishery extraction phase was the harvesting of *chordates*, notably herring, shad, and rockfish (striped bass) and started in the end of the eighteenth century and ran until a decade or two after the Civil War. With a catch of 25 million shad and a stunningly high yield of 750 million herring in 1835, returns continued to be impressive until a bottoming out near the end of the nineteenth century. In 1878, for example, the catches from both shad and herring were about one one-hundredth of that in 1835.[27] The harvesting of *Callinectes sapidus*, the famous Maryland Blue Crab, accounts for the third fishery phase. The crabbing industry began in the early twentieth century and peaked by the 1980s, with hauls of around 50,000 tons.[28]

Straddling these two phases is C*rassostrea virginica*. Commonly referred to as the Eastern Oyster, harvest of the C*rassostrea virginica* began in earnest after the Civil War and peaked in the 1870s and 1880s, with hauls of 14 million bushels in 1874 and 15 million in 1885 marking start and finish of this high plateau. In that interceding decade hauls never fell below 10 million bushels.[29]

For centuries the oyster represented an accessible and sustainable source of protein for those that resided along the Chesapeake. The Algonquin-speaking peoples that lived along the Great Shellfish Bay's (*Chesepiook)* many tributaries, estimated to have numbered from 30,000 to 45,000 people by the time of European contact, would harvest oysters to fill the winter months'

[27] Philip D. Curtin, Grace S. Brush, and George W. Fisher, *Discovering the Chesapeake: The History of an Ecosystem* (Baltimore, MD: The Johns Hopkins University Press, 2001), 204-207.
[28] Ibid., 207.
[29] John R. Wennersten, *The Chesapeake: An Environmental Biography* (Baltimore, MD: Maryland Historical Society, 2001), 128; Keiner, *The Oyster Question*, 38.

protein gap.[30] By virtue of their low population density, Native American impact on the oyster population was negligible. "Intensive harvesting of shellfish, for example, may have depleted specific places, but prehistoric oyster shells do not normally display the significant size reduction that indicates over-harvesting."[31] The oyster population in the Bay before the Civil War was astounding; its oysters could filter the entire Chesapeake Bay in a few days—that is over 18 trillion gallons of water![32] Today, it takes almost a year.[33] So abundant was the oyster that their beds posed threats to ships, and forced many a captain to navigate the Bay and its tributaries carefully. Traveling far from the peaks and valleys of his native Switzerland in the eighteenth century, Francis Louis Michel commented that:

> The abundance of oysters is incredible. There are whole banks of them so that the ships must avoid them. A sloop, which was to land us at Kingscreek, struck an oyster bed, where we had to wait about two hours for the tide. They surpass those in England by far in size, indeed; they are four times as large. I often cut them in two, before I could put them into my mouth.[34]

Little did Michel realize the peaks and valleys he would have recognized from his homeland were under the brown-green waters of the Chesapeake.

During the seventeenth and eighteenth centuries, however, oysters did not account for much of the nutritional load of Marylanders, except for slaves and poor whites during the winter months.[35] However, in the nineteenth century, with land prices rising due to the plantation system, many poor whites turned to the water for their livelihood "by working in shipyards, like

---

[30] Curtin, Brush, and Fisher, *Discovering the Chesapeake*, 121.
[31] Ibid., 123.
[32] Lynch , et al. "Understanding the Estuary: Advances in Chesapeake Bay Research," in *Understanding the Estuary : Advances in Chesapeake Bay Research* (Solomons, MD : Chesapeake Research Consortium, 1988), 539; "Chesapeake Bay Facts and Figures," *Maryland Sea Grant*, April 27, 2013, http://www.mdsg.umd.edu/topics/ecosystems-restoration/chesapeake-bay-facts-and-figures.
[33] Keiner, *The Oyster Question*, 2010, 30.
[34] James Wharton, *The Bounty of the Chesapeake: Fishing in Colonial Virginia*, (Charlottesville, VA: University of Virginia Press, 1957), 35.
[35] Oyster season, as practiced by Native Americans, colonist, and nineteeth century watermen, was during the winter (the "r" months).

those in Chestertown and Oxford, or by catching herring and oysters."[36] During the American Revolution, they sided with the British, getting revenge for the past—real and imagined—humiliations heaped upon them by the arrogant Maryland gentry through serving as brokers and privateers.[37]

This independence and rejection of elites solidified as a tradition of rugged individualism and suspicion of outsiders.[38] Before the Civil War, most families subsisted on a diverse spread of crops—corn, wheat, and tobacco—supplemented with logging; oyster yields were at only about 500,000 bushels yearly (about 50,000,000 oysters).[39] In point of fact, the first dedicated oyster harvesters did not come from Maryland, but were New England seafood industrialists who had already depleted the oyster beds of the Long Island Sound. The arrival of these dredging invaders in the 1830s laid the foundation for the enmity between the tonger and dredger.[40] The state limited oystering to Maryland residents in 1820.[41] This encouraged many New England seafood interests to move their base of operations to Maryland (either Baltimore or Crisfield), starting with Caleb S. Maltby, who moved from Fairhaven to Baltimore in 1836.[42] By 1850, there were six packing houses in Baltimore, and the harvest for that year raked in a respectable 1.3 million bushels.[43]

---

[36] Wennersten, *The Oyster Wars of Chesapeake Bay*, 1981, 7.
[37] Ibid., 7–9.
[38] Christopher P. White, *Skipjack : The Story of America's Last Sailing Oystermen* (New York, NY: St. Martin's Press, 2009), 364.
[39] A bushel generally had about 100 oysters.
[40] Keiner, *The Oyster Question*, 35; White, *Skipjack*.—Even as late as the 1990s, the twilight years of the oyster industry, there was a strong culture of distrust between dredge boat captains and tongers, with Skipjacks raiding grounds reserved for tongers.
[41] Keiner, *The Oyster Question*, *35*.
[42] Wennersten, *The Chesapeake*, 111; Wennersten, *The Oyster Wars of Chesapeake Bay*, 13; Bradford Botwick and Debra A. McClane, "Landscapes of Resistance," 94–112; Habermacher, Andrew Lee. "Work and Health of the Chesapeake Bay Commercial Fishermen of Somerset County, Maryland: " It's a Hard Life, Honey!"". PhD diss. University of Florida, 1986.
[43]. Habermacher, "Work and Health of the Chesapeake Bay Commercial Fishermen of Somerset County, Maryland," 63.—Bushels would generally yield about 100 to 150 oysters; weighing about 60 pounds.

The Civil War served to limit any expansion in the industry, but thanks to the infrastructural investments from the war the industry took off after Appomattox. Stimulated by the extension of the railroads, oyster harvesting grew to be the vanguard of a fifty million dollar seafood industry, an industry that, thanks to the refrigerated railway car and canning, was able to send the Eastern Oyster all the way to the Rocky Mountains.[44] By 1870, there were 563 licensed dredgers in Maryland and about twice as many tongers.[45] However, this number fails to capture the true extent of the oyster industry as many dredgers operated illegally, either by living in Virginia or hiding amongst the many shanty towns that dotted the inlets and coves along the eastern Chesapeake Bay. Thus, the number of actual skipjacks plowing the Bay was probably closer to one thousand.[46] By 1890, almost one-fourth of the workforce in Maryland (about 30,000 persons) worked in the oyster industry, with 4,500 boats plowing the waters of the Bay and its tributaries.[47] However, beginning in the 1890s harvests began to decrease due to over-extraction, with the 1920s seeing hauls of only 2 million bushels.[48] Maryland's oyster population has in recent years begun a slow reclamation, though there is a long way to go before the oyster population returns to what it was before the mid-nineteenth century.[49]

This was an industry that did not just support towns financially; in some case towns were literally supported by oysters. Solomons Island in Southern Maryland is nearly connected to the mainland of Calvert County by a causeway of oyster shells. Sections of the city of Crisfield are built on a "solid area of oyster shells."[50] By producing one-third of the world's oysters,

[44] Wennersten, *The Oyster Wars of Chesapeake Bay*, chap. 1 .
[45] Ibid., 27.
[46] Wennersten, *The Chesapeake*, 2001, 119.
[47] Ibid., 114.
[48] Curtin, Brush, and Fisher, *Discovering the Chesapeake*, 210–211. The first record of an oyster harvest in Maryland dates from 1839, and puts the haul at about 700,000 bushels.
[49] Keiner, *The Oyster Question*, 2010, 29–35.
[50] W. Wyman, "Hardships of the Coasting Trade, and Particularly of the Chesapeake Bay Oystermen," *Public Health Papers and Reports*, Vol. 10 (1884): 273.

employing thousands of people, and bringing in millions of dollars to the state, the industry was exceedingly important to the state's economic fortunes. The oyster was so central to the state that in 1912 the City of Baltimore developed and paid for a water treatment system to protect the oyster population—not the health of its populace.[51]

[51] Keiner, *The Oyster Question*, 2010, 3.

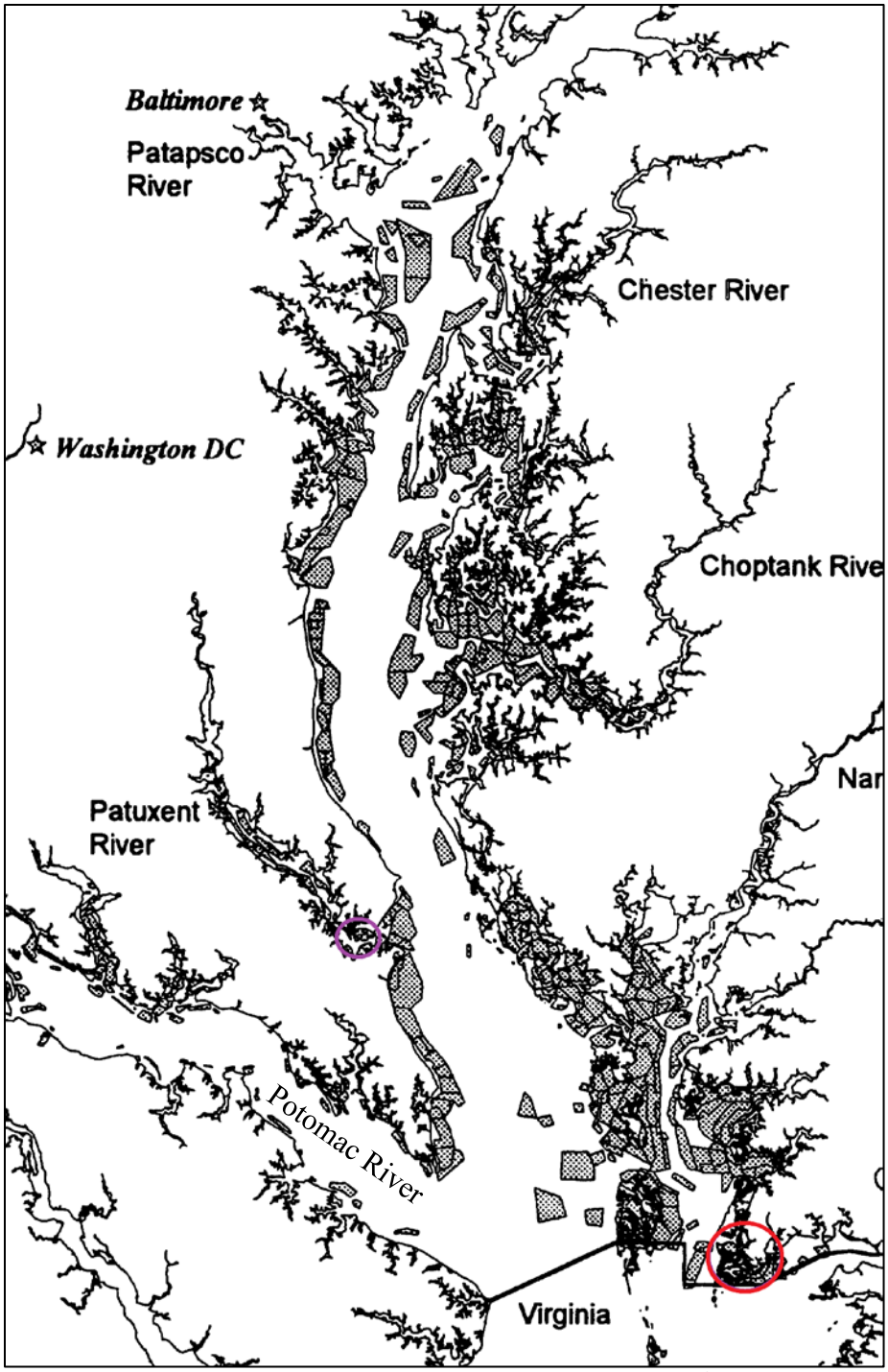


Figure 2: A map showing the Chester and Potomac Rivers. Solomons Island is circled in violet and Crisfield is in red. Images from: "Maryland's Historic Oyster Bottom: A Geographic Representation of the Traditional Named Oyster Bars." Maryland Department of Natural Resources. October 1997.

*The Oyster*

Oysters proliferate in the brackish water of the Chesapeake; in particular, the area between the Chester and Potomac rivers (fig. 2) offer an ideal environment for their growth.[52] With a preference for hard surfaces, and given that their larvae cannot travel far, oysters tend to coalesce into colonies, called beds. Larvae will search the seafloor for a suitable nesting location, attaching to a hard surface such as rocks, clam shells, or other oysters, where it will then spend the rest of its life—which can be as long as twenty years.[53] The density can vary considerably but range from 500 to 1,000 oysters per square meter.[54] Formed into beds which used to stretch along the Chesapeake Bay, it is hard not to see why oystering would be an attractive business venture and, eventually, become central to Maryland's economic life.

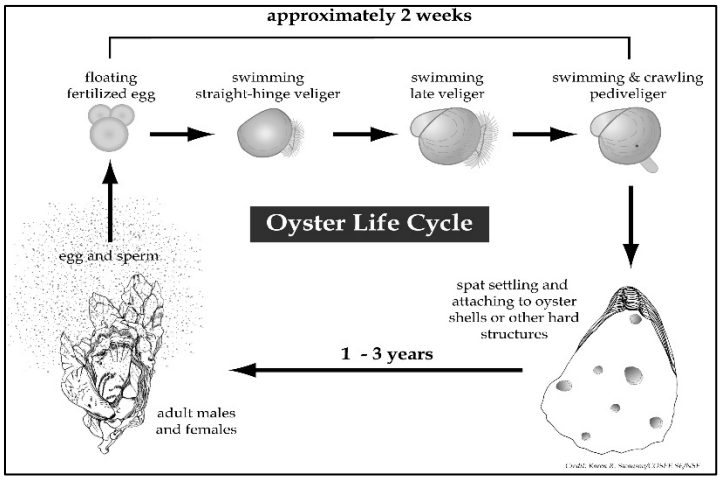



Figure 3: "Oyster Life Cycle." South Carolina Oyster Restoration and Enhancement Program. http://score.dnr.sc.gov/deep.php?subject=2&topic=15

[52] Keiner, *The Oyster Question*, 30; "Oysters - Fish Facts - Chesapeakebay.noaa.gov," accessed April 5, 2016, http://chesapeakebay.noaa.gov/fish-facts/oysters. The optimal salinity range for eastern oysters is 14-28 practical salinity units (a measurement based on conductivity). Brackish water can range between 1 to 29 psu. The region between the Chester and Potomac rivers--an area running from the Chesapeake Bay Bridge to the southern tip of Maryland's western shore--prove to be conducive to oyster growth, while also serving to limit the presence of predators and diseases. This held true until the 1960s when *Haplosporidium nelsoni* (often called MSX, a protozoa that is highly lethal to oysters) struck. For further information on the negative influences of MSX on the Maryland oyster industry see: Christopher P. White, *Skipjack : The Story of America's Last Sailing Oystermen* (New York, NY: St. Martin's Press, 2009).

[53] "Crassostrea Virginica," accessed March 4, 2016, http://www.sms.si.edu/IRLSpec/Crassostrea_virginica.htm.--After a larvae has nested it is called a *spat* until it reaches adulthood.

[54] Ibid.

As has been mentioned, there were two methods for harvesting oysters: tonging and dredging. The tong is the archetypal instrument of the oysterman and consisted of a twelve to eighteen-foot handle that supported a wide mouth that acted as a sort of salad tongs of the water.[55]

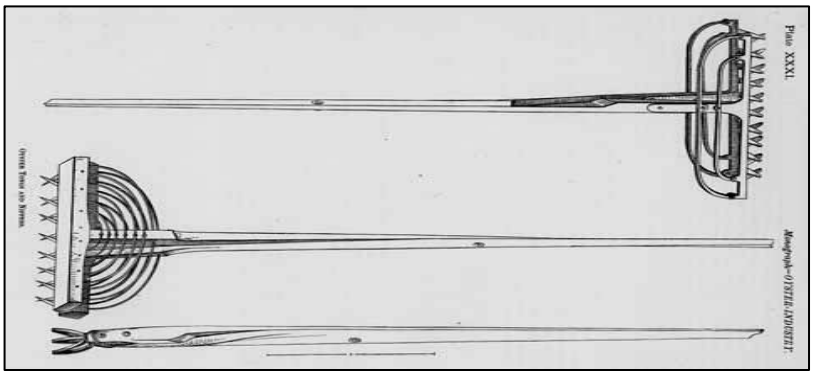


Figure 4: "Oyster Tongs." Drawing. Retrieved from the Library at The Mariners' Museum. https://www.marinersmuseum.org/sites/micro/cbhf/oyster/mod007.html

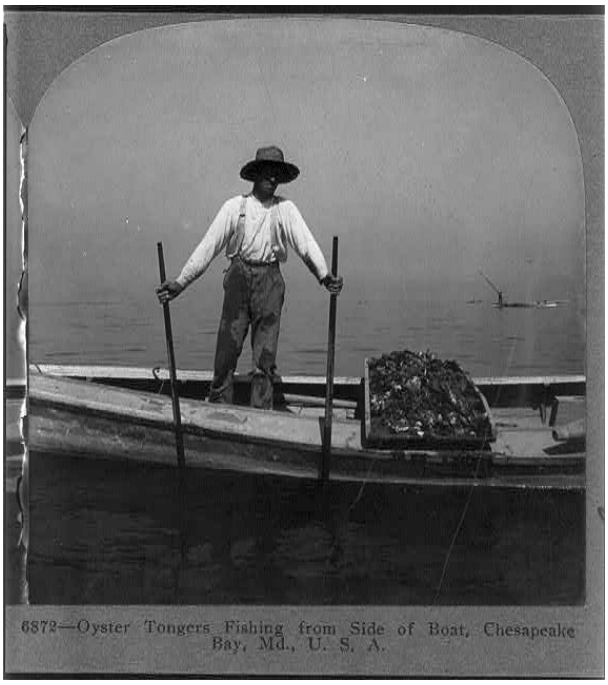



Figure 5: *Oyster tongers fishing from side of boat, Chesapeake Bay, Md., U.S.A.* Chesapeake Bay Maryland Virginia, ca. 1905. Photograph. Retrieved from the Library of Congress, https://www.loc.gov/item/2003688544/.

[55] "On the Water - Fishing for a Living, 1840-1920: Commercial Fishers > Chesapeake Oysters," accessed March 4, 2016, http://americanhistory.si.edu/onthewater/exhibition/3_5.html.

Tongs would be used to scoop oysters from a shallow bed; a tong filled with oysters, rocks, and mud could weigh up to sixty pounds, which explains why many tongers suffered hernias and chronic back pain.[56] In general, tonging boats had small crews, generally only two, and occasionally four, men. One person would use the tongs to harvest the oysters, dropping the tongs vertically into the water to scoop a catch of oyster off the seabed. The second oysterman, called the culler, would proceed to break apart and sort the oyster colonies. After a while, the culler and tonger would switch places.[57]

The other method of oyster extraction was dredging (fig. 6 & 7), which was done on the famous Maryland skipjack. In 1825 Maryland banned dredging to protect tonging interest. After the Civil War, in 1865, in response to growing demand from the canning and railroad industries to open the Chesapeake's vast protein deposits, the General Assembly legalized dredging, but regulated the practice to "minimize disruptions to traditional tidewater communities [tongers]." Tongers, then, enjoyed a longer season than dredgers. Most importantly, steam power was prohibited a "stipulation that further caused conservation and maximal human employment," this technological limitation "curbed the [dredging] industry's expansion."[58] Because of this the skipjack was designed to best use the Bay's environmental conditions and Maryland's technological restrictions. With a low freeboard (the distance from the water line to the deck), a long beam (the widest section of the boat, on skipjacks this ran about one-third its length), a centerboard (retractable keel), and a large two sail mast the skipjack was perfectly designed to dredge for oysters. The freeboard allowed easy access to the water. The broad beam and centerboard increased stability. The retractable centerboard allowed skipjacks to enter shallow waters. The large rigging allowed skipjacks to take full advantage of the wind as well.

[56] Wennersten, *The Chesapeake*, 2001, 118.
[57] Wennersten, *The Oyster Wars of Chesapeake Bay*, 1981, 28–35.
[58] Keiner, *The Oyster Question*, 2010, 45.

Figure 6: *Two-sail Bateau "Skipjack", Dogwood Harbor, Chesapeake Bay, Tilghman, Talbot County, MD.* Maryland Talbot County Tilghman, 1968. Documentation Compiled After. Photograph. Retrieved from the Library of Congress, https://www.loc.gov/item/md1454/. (Accessed March 15, 2017.)

Figure 7: *Two-Sail Bateau E. C. COLLIER, Chesapeake Bay Maritime Museum, Mills Street, Saint Michaels, Talbot County, MD.* Maryland Saint Michaels Talbot County, 1968. Documentation Compiled After. Photograph. Retrieved from the Library of Congress, https://www.loc.gov/item/md1203/. (Accessed March 15, 2017.)

Typically, a skipjack would have two dredges, and each dredge was operated by a *windlass* and crewed by four men. It was backbreaking work, as motorization of the dredge windlass was not allowed until 1906.[59] Thus, before the twentieth century, the harvesting of oysters was conducted under wind and muscle power alone. However, it still relied on several layers of technology. The windlass itself was made of iron and comprised a gear system which multiplied the strength of a man, allowing someone to wind in a haul several times above what could have done without this technology. The dredge was also constructed of iron and connected to the skipjack via a chain.[60] Regardless of these technologies, dredging was still a grueling way to make a living.

Figure 8: *Dredgers used on sailing craft, Baltimore, Md., U.S.A.* Baltimore Maryland, ca. 1905. Photograph. Retrieved from the Library of Congress, https://www.loc.gov/item/2002723690/.

[59] Wennersten, *The Chesapeake*, 2001, 119; Keiner, *The Oyster Question*, 2010, 15.—The General Assembly banned motorization of, or on, oystering skipjacks in 1860. These was an attempt to both preserve labor, and provide some minimal conservation of the oyster beds.
[60] Botwick and McClane, "Landscapes of Resistance," 96–97.

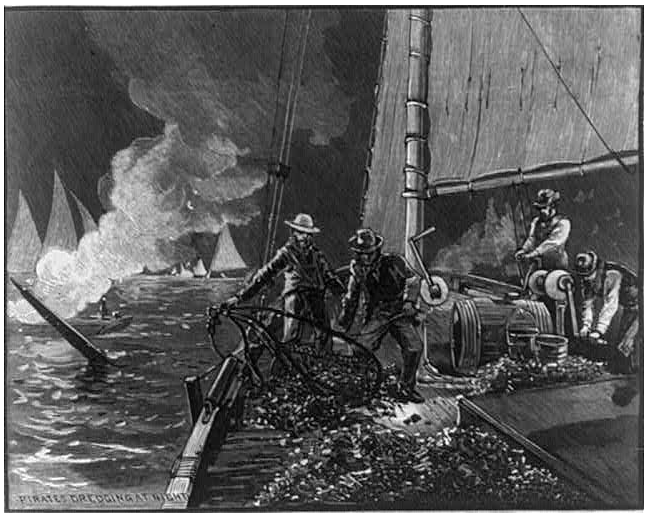


Figure 9: *The oyster war in Chesapeake Bay*. March 1, 1884. Drawing. Retrieved from the Library of Congress, https://www.loc.gov/item/2002698359/.

Maryland state officials protected both labor and nature when they divided the Chesapeake into county and state waters.[61] In the shallows of the Bay, oysters were harvested by the preindustrial methods of tongers. As the owners of their tools, tongers were yeomen of the water. Each tonger had to rely on his knowledge of the Bay and its oysters.[62] Where dredging was an industry of scale, the size of a harvest relying on a skipjack's ability to cover a large area, tonging did not have such a technological advantage. Dredges could pull in loads (of mud, rock, and hopefully oysters) weighing hundreds of pounds; a tong might grab sixty pounds a load. The commitment of energy for a tonger, then, resulted in a much lower return on investment than dredging. Tongers needed to leverage an "intuition about the resource" to be successful.[63] Tongers could, supposedly, even differentiate between oysters and rock simply through touch.[64] Tongers had to use their understanding of environmental patterns to compete against the

[61] Keiner, *The Oyster Question*, 30–50.-- In 1830, Maryland divided the Chesapeake into state and county waters. County waters—extending 300 yards from the low tide line—were reserved for tongers and the state waters were for dredgers.
[62] Ibid., 40–45 and 52–56.
[63] Botwick and McClane, "Landscapes of Resistance," 95.
[64] Ibid., 95–96.

dredgers. Where tongers were "artisans," dredgers used "industrial techniques for harvesting . . . as well as for organizing labor, capital, and technology."[65]

Millard Tawes (Governor of Maryland 1959-1967) shows the harshness of the industry in reminiscing about his father: "[He] lasted exactly one day on that dredge boat before he quit. It was inhuman work and my father was not about to ruin himself for oysters."[66] The oyster season started in October and ended in April, with the day starting before sunrise and running until sunset. Dredgers would often spend the whole work week on the water, leaving Monday and returning Friday; tongers could return to land each evening. With a peak in prices in November in preparation for Christmas, the work of an oysterman left him exposed to the elements.[67] The limitations of the season left many men's (and women's, for women made up about one-third of the workforce in Maryland's many packing houses) financial security at the mercy of the elements.[68] A harsh freeze could put a financial squeeze on many boat captains, and imperil the lives of many hands. The cold, the wind, and the rain along with the harsh working conditions all did much to break the oysterman's health.[69]

> The cold and damp of the Bay prematurely aged men, and in water-locked hamlets like Crisfield, Cambridge, and Oxford, the most noticeable characteristics of watermen were iron-grey hair and a deeply lined brow. In countless water-front saloons men complained of chest misery. Too many, local doctors knew, had cough-wracked bodies honeycombed with tuberculosis.[70]

[65] Ibid., 96 & 95.
[66] Quoted in: Wennersten, *The Oyster Wars of Chesapeake Bay*, 1981, 36.
[67] White, *Skipjack*.
[68] "Local Matters: Brief Locals," *The Sun (1837-1990)*, January 6, 1881. In this 1881 report, the *Sun* counted 45 parking firms in Maryland employing 4, 167 men and 2, 460 women; with approximately 4, 900 additional men crewing 700 dredgers and an additional 5,148 tonging along the shores of the Chesapeake and its tributaries.
[69] Wennersten, *The Oyster Wars of Chesapeake Bay*, 1981, 30 and 36.
[70] Wennersten, *The Chesapeake*, 2001, 117.

In the nineteenth century, the Maryland General Assembly's apportionment favored rural counties over urban areas. The State Senate comprised twenty-six senators, one from each county and three from Baltimore City. The House of Delegates awarded seats to the counties by population, but each county (and the Baltimore City which is not a county, but functioned as one) had at least three and a maximum of six delegates.[71] By leveraging this rurally skewed legislative apportionment, tongers and oyster captains were able to maintain their economic hegemony and head off Progressive Era conservationist intervention.[72] However, these labor-preserving rules—preservation of access to labor, not the laborers themselves—also exposed tonger and dredgers to greater health hazards. In limiting the range of dredging vessels protected oyster beds and preserved the livelihood of the rurally located tongers. By restricting dredging vessels to wind and muscle power, Maryland was keeping the oyster industry open to a large number of men by preventing the dredging industry from becoming fully mechanized. Simultaneously, the state also engaged in some conservation by making it harder to dredge for oysters. As a result, there were a comparatively equal number of men engaging in dredging and tonging.[73] The eventual introduction of the powered windlasses in 1906, reduced the number of men employed by dredgers, but also reduced the potential for injury by removing one brutal step from the dredging process. As a result, "the tyranny of the hand windlass soon became only legend on the bay."[74]

To be an oysterman was to be both free and trapped. On the water, tongers escaped from the requirements of society and the economic controls of a new industrial and urban America.

---

[71] Keiner, *The Oyster Question*, 2010, 7.
[72] Ibid., 5–11.
[73] Henry Lloyd, "The Governor's Message: Review of State Affairs: Matters for Legislative Action: State Finances, Constitutional Convention, Tobacco Inspection, Oyster Protection and Other Topics--Taxation of Mortgages Proposed," *The Sun (1837-1990)*, January 8, 1886.
[74] Wennersten, *The Chesapeake*, 2001, 119.

The men of the Eastern Shore of Maryland prized, above all, their independence. The tongers of Crisfield, Cambridge, and Tilghman's Island were all their own bosses: they owned their equipment and thus had greater control over their labor. These were men characterized as both thrifty and improvident; for many, this was not an economically fruitful life, but one that provided some freedoms not offered in the industrialized economy of nineteenth century America.[75] Even well into the twentieth century, men, and a few women, felt compelled to *follow the water*; brackish water was in their blood, and the freedom of the Bay was a greater reward than financial stability.[76]

These were also men who lived in the moment, likely to spend the money from a good haul in bars and brothels.[77] Life on the water was a life of hard work and significant hazard to one's health, for "[t]he Bay country bred a fierce recklessness in men who pitted their lives against the wild elements of the Chesapeake." Shore-time, then, represented a vacation, a time to drink and engage in prostitution, alcohol being "the acme of sensual bliss" for sailors and oystermen alike.[78] There was a darker side to this freedom. The spendthrift ways of oystermen left them open to exploitation and control, for "[in] signing the articles of ship...the sailor [or dredger] abdicated control over his person," this produced an odd paradox where "the sea simultaneously represented a passport to freedom and a life akin to slavery."[79]

While Eastern Shore tongers represented a holdover from preindustrial times, dredging was an industrial affair. Dredgers, often poor whites, African-Americans (who made up about thirty percent of the workforce), or (predominantly German and Irish) immigrants were wage

[75] Botwick and McClane, "Landscapes of Resistance," 95–102.
[76] White, *Skipjack,* 3.
[77] Wennersten, *The Oyster Wars of Chesapeake Bay*, 3–36.
[78] Wennersten, *The Oyster Wars of Chesapeake Bay*, 20; Paul A. Gilje, *Liberty on the Waterfront : American Maritime Culture in the Age of Revolution* (Philadelphia, PA: University of Pennsylvania Press, 2004), 9.
[79] Ibid., 83 & 69.

laborers no different from the oyster packers or other factory workers. Where tonging required skill, dredging was for the unskilled. Tongers owned their boats and equipment, while dredgers were just employees on a skipjack. In fact, packing houses owned many skipjacks, and captains of these vessels were simply hired as managers.[80] The reality of the dredger's employment was that it was industrial; dredgers worked in factories which floated upon the water, lit not by electricity or gas lighting but by the cold morning light of the southern Chesapeake. Lacking tonging's imbrication of man and nature, dredging relied on technology and efficiency to be profitable. Dredging was an assembly line for organic processing, defined by iron and muscle power.[81] The work was physically and psychologically demanding; dredgers not only had to brave the elements but also engage in backbreaking labor and always ran the risk of being injured or maimed. A dredger manning a windlass was pulling in several hundred pounds of rock, mud, and oyster, running the risk of injury due to the strain of the work or a malfunction of the equipment. The culler would have to sort through hundreds of oysters and sharp rocks, risking laceration and infection.

*Dredging's Dangers*

In November of 1882, James Belfield was struck in the stomach by his windlass when the dredge caught on some submerged obstacle, most likely a rock, knocking him across the boat. He landed on his back, badly, and lost the use of his legs.[82] Malfunction of the windlass was a common way to receive an injury on a skipjack, as noted in William Marsh's 1893 report from Solomons Island: "The kinds of injuries received at this station are those mostly caused by the

[80] Botwick and McClane, "Landscapes of Resistance," 96.
[81] Wennersten, *The Chesapeake*, 119.
[82] Wyman, "Hardships of the Coasting Trade, and Particularly of the Chesapeake Bay Oystermen," 279–280.

dredge hand crank."[83] Alternatively, one could escape those dangers by being a culler, replacing the blunt force trauma of the dredge for the risks of *oyster hand*, where a laceration caused by the razor-sharp shells could become dangerously infected. One article in *The Baltimore Sun* from August 1876 recounts how George W. Roberts died after getting tetanus from an injury he received on a dredging boat.[84] Such infected cuts often required "months of medical treatment" to cure.[85]

Unfortunately for dredgers, not only did they work in an industry that exposed them to many health risks, but they also worked in an industry where abuse was commonplace. Complaints of mistreatment occurred rather frequently, though actual prosecutions of captains were rare.[86] In January 1885, Capitan Edward Crockett of the *Anna May* was charged with murder in the death of Benedict Beck. Beck had expired from lockjaw (tetanus) resulting from injuries sustained to his right arm when Crockett assaulted him on December 17th. Subsequently, a warrant was issued for his arrest when a coroner's court concluded their review of the case they found Crockett liable for the death.[87] This, however, was anomalous, as many captains were prominent community leaders, serving in local government and often the friends of judges, and rarely would juries bring charges against them.[88]

---

[83] W.H. Marsh, "The Relief Station at Solomons, M.D.," in *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States* (Washington, DC: G.P.O., 1893), 71.
[84] "Article 1 -- No Title," *The Sun (1837-1990)*, August 17, 1876.
[85] Wennersten, *The Oyster Wars of Chesapeake Bay*, 58; Though, this could also be a result of the oysterman's general stubbornness in attempting to self-medicate most problems, often exacerbating the infection or injury. See: Habermacher, "Work and Health of the Chesapeake Bay Commercial Fishermen of Somerset County, Maryland," chap. 7.
[86] It was not until 1917 that a Federal Court took up a shanghaiing case. See: Wennersten, "The All Mighty Oyster: A Saga of Old Somerset and the Eastern Shore, 1850-1920," 87.
[87] "Sufferings of the Dredgers: Death of Another Victim--What the State Board of Health Propose," *The Sun (1837-1990)*, January 5, 1885; "Treatment of Dredgers: A Mass-meeting of Germans Asking for Laws to Protect the Men Urging a More General Police Supervision--Verdict of the Coroner's Jury in the Case of Benedict Beck," *The Sun (1837-1990)*, January 6, 1885.
[88] Wennersten, *The Oyster Wars of Chesapeake Bay*, 1981, 14–36.

When labor was abundant, captains had little trouble enticing men, mostly from Baltimore, to join their crews, but when labor was scarce, they would have to resort to another method of recruitment: shanghaiing.[89] The danger of being shanghaied was an open secret in Baltimore's waterfront slums. In her book *The Oyster Question*, Christine Keiner comments on the state of Maryland's oyster industry and the place of dredgers, noting: "No man was safe around the Baltimore waterfront after dark in the R-months."[90]

In January 1885, about 1,500 German-Americans held a meeting in Baltimore's Schlegels Hall with the expressed purpose of petitioning the General Assembly for better protections for dredgers. Louis Graf, the chairman of the meeting, opened by stating "You all know the atrocities that have been committed on Maryland waters . . . The blood of the fallen victims cries out to Heaven for vengeance."[91] The conclusion was that the authorities wanted to provide protections to dredgers, but lacked the means to do so.[92]

In November 1885, *The Baltimore Sun* released an editorial stating that "public opinion demands" that the General Assembly pass legislation granting protection to oyster dredgers.[93] In powerful and eloquent language they lay the blame for these abuses not at the feet of the captains, but as a result of business conditions which allowed cruelty to flourish. The authors called for a law to prevent shanghaiing, going so far as to state that if Maryland did not act, then Congress must intervene.[94]

---

[89] Wyman, "Hardships of the Coasting Trade, and Particularly of the Chesapeake Bay Oystermen," 276.; Stecker, Mark, *Shanghaiing Sailors: A Maritime History of Forced Labor, 1849-1915* (Jefferson, NC: McFarland & Company, Inc., Publishers, 2014) chap. 8.—Shanghaiing was the practice of kidnapping men and forcing them to work on a vessel. The most common victims were those that passed-out drunk at the bar. The drugging of drinks was also a favored method.
[90] Keiner, *The Oyster Question*, 2010, 47.
[91] "Treatment of Dredgers." *The Sun*.1885
[92] "Sufferings of the Dredgers." *The Sun.* 1885
[93] "Protection to Oystermen," *The Sun (1837-1990)*, November 14, 1885.
[94] Ibid.

It is hard to tell the true intentions of *The Sun's* numerous exposés of the cruelty embedded within dredging. To be sure, there is a dramatic hook in all of these stories which undoubtedly stimulated readership. With titles like "Suffering of Destitute Dredgers" and "Hung up by the Thumbs," it is easy to see that *The Sun* was attempting to attract readers with linguistic eye candy, but such titles were also accurate characterizations.[95] However, it is important to remember that within these stories, even with the flashy titles, *The Sun* was exposing the injuries and mistreatments suffered by dredgers. *The Sun* also has a history of engaging in some limited activist reporting. In 1882, the paper challenged Baltimore City's powerful Democratic machine by supporting the "new judge ticket" in that year's election, despite having been card-carrying party supporters in the prior decades.[96] So, while there is a possibility that *The Sun* may have been printing these stories simply to boost readership, it is also evident that the paper did engage in activist publication. By shedding light on the health risks and mistreatments of dredgers, *The Sun* was also raising awareness of the brutal conditions facing oystermen.

Most injuries to dredgers came about not by the cruel intentions of skipjack captains, but as a result of the nature of dredging and apathy toward workplace safety. Of the 70 oystermen at St. Joseph's Hospital in Baltimore, as reported on January 5, 1885, by *The Sun*, twenty-five were suffering from crank-wounds, frostbite, or "shell-poisoning" (oyster hand).[97] On just one day, January 28, 1886, Baltimore City's Bay View Asylum (which, in addition to housing the insane also served as an almshouse) had about one-hundred oystermen with frostbite. The day before had brought in forty cases of frostbite, with multiple amputations performed, including "W.M.

---

[95] "Sufferings of Destitute Dredgers," *The Sun (1837-1990)*, February 2, 1888.; Reported for the Baltimore Sun, "Hung Up by the Thumbs Tale of and Oyster Dredger: A Startling account of Cruelty Sworn Statement Before United States Commissioner Bond--Two Men Try to Swim Ashore and One Is Drowned," *The Sun (1837-1990)*, December 7, 1888.

[96] Harold A. Williams, *The Baltimore Sun, 1837-1987* (Baltimore, MD : Johns Hopkins University Press, 1987), 71–73.—This desertion angered many readers and resulted in "advertising and circulation losses."(95)

[97] "Sufferings of the Dredgers," *The Sun*. 1885.

Ford, a hand on the schooner *Florence Lee*, [commanded by] Capt. Wise, had one toe amputated yesterday."[98]

Dangers on an oyster dredger abounded, oyster hand from culling, injuries from falls, illness due to exposure, all of these were facts in the life of a dredger. Recall the paralysis of James Belfield in November 1882. The accident was not regarded as a unique occurrence, but "a day pointed to by the hand of probability."[99] This outlook was in keeping with the occupational health theories of the time, which assigned the responsibility of workplace safety with each worker.[100] The *Doctrine of Assumed Risk, Contributory Negligence,* and *Fellow Servant Rule* largely absolved management from being held responsible for workplace injuries.[101] Walter Wyman of the Marine Hospital Service concluded his 1884 report to the American Public Health Association that the dangers of oystering are intrinsic to its profession and "no modicum, therefore, is directed toward the removal of this risk to life and limb of men whose labor is indispensable."[102] The only solution to this problem, then, was to ensure treatment for the injured and infirm. "In matters of health, there is no choice but to be our brother's keeper."[103]

*Conclusion*

The health hazards—and labor abuse—faced by Maryland's dredgers did not occur in a vacuum. Journalists for *The Sun*, acting as primordial muckrakers, exposed the plights faced by oyster dredgers and called for state action.[104] On occasion, the dredgers themselves would

[98] "So-Called Frostbitten Dredgers," *The Sun (1837-1990)*, January 28, 1886.
[99] Wyman, "Hardships of the Coasting Trade, and Particularly of the Chesapeake Bay Oystermen," 280.
[100] Mohun, *Risk*, 1–5.

[101] Ibid., 52–68 &117–40.
[102] Wyman, "Hardships of the Coasting Trade, and Particularly of the Chesapeake Bay Oystermen," 280.
[103] Ibid., 281.
[104] "Protection to Oystermen," *The Sun (1837-1990)*, November 14, 1885.

engage in collective action, but this was a rarity.[105] Their plight also caught the eye of federal health authorities, in the person of the Marine Hospital Service's Dr. Wyman, leading him to call for provisions to be made to provide care for oystermen. Wyman's proposal still operated within the confines of the pre-Progressive understanding of occupational health, that injury and disease are part-and-parcel to employment: disease, injury, and death on the job were statistical probabilities, not anomalies in the Gilded Age.[106]

In reports of dredgers' conditions and calls for health intervention, it is important to note that the voice of the dredger is not present but filtered through a middle-class and professional synthesizer. Thus, it is possible that there was a distortion of the reality of the dredger's situation and the causal realities of their status were, perhaps, overlooked in the name of journalistic advertising or as a byproduct of Gilded Age ambivalence. What is more important in this case is not so much that a filter is garbling their voice, but that the filter is allowing anything through. Pressure on the state government over the paltry funding for the Board of Health resulted in a six-hundred percent increase to its budget a year later.[107] That Dr. Wyman called for further intervention for the medical relief of dredgers in 1884 shows that aspects of Progressive interventionist government policy were starting to form during the Gilded Age.

The focus of these calls for intervention was on dredging, not tonging. This is a result of the industrial/preindustrial dichotomy. Tongers were preindustrial laborers, and the threats they faced occurred within the confines of the preindustrial agricultural work they performed. They predominantly faced dangers from the weather, which was well beyond human control.[108] Dredging, however, was an industrialized affair. Dredgers were not born and bred oystermen;

---

[105] "Treatment of Dredgers," *The Sun*. 1885.
[106] John Fabian. Witt, *The Accidental Republic : Crippled Workingmen, Destitute Widows, and the Remaking of American Law* (Cambridge, MA: Harvard University Press, 2004), 3.
[107] Lloyd, "The Governor's Message," *The Sun.* 1886.
[108] Mohun, *Risk*.

they were hired one season at a time. Unlike the tonger, dredgers did not own their equipment and lacked the symbiosis with nature that tongers enjoyed.[109] Dredging did take place in an environment that was not within much human control, but it also took place on skipjacks. Skipjacks were constructed to adapt to the environmental and economic stressors of the Chesapeake Bay and dredgers faced both environmental and industrial health threats.

In relying on unskilled wage laborers from dense urban areas, this was an industry that appeared very similar to most forms of industrial production. However, this is also an industry that was largely at the mercy of weather patterns and water chemistry (that most of all affecting the bountifulness of hauls). The Chesapeake, however, was a natural environment despite attempted construction through the regulation of energy (limitations on motorization) and geography (division between county/tonger and state/dredging waters). Dredging was an industrial style workforce brought from an urban area into a local that was both within human control (the skipjack) and outside of human control (the Bay). [110]

Considerations of environmental management ran afoul of economic wants regarding the oyster question. Maryland regulated some aspects of the oyster industry, while leaving other areas unregulated.[111] The methods of extraction were strictly controlled, while the impact of that extraction on the body was not regulated. It is the overlap of environment and economics, of nature and urban, of preindustrialism and industrialization, which defined the Maryland oyster industry. Legislative limits on mechanization checked industrial labor practices. Rural oystermen resisted centralized management and privatization of the commons because such changes were counter to their economic interest. It is because the Chesapeake is both an environmental and

[109] Botwick and McClane, "Landscapes of Resistance."
[110] Thomas Zeller and Sara Pritchard, ""The Nature of Industrialization," in *The Illusory Boundary Environment and Technology in History*, ed. Martin Reuss and Cutcliffe (Charlottesville, VA: University of Virginia Press, 2010).
[111] Keiner, *The Oyster Question*, 2010.

economic landscape that there were so many dangers facing dredgers: they faced the threats of poor industrial safety and natural hazards.

## Chapter 2: Maryland, Oysters, and Doctors

Maryland's categorization of what type of work dredging was, along with leading health officials' concept of what role a health agency should play in the state, constricted how the government of Maryland responded to the occupational health dangers facing oyster dredgers. This action (or, as will be explained, lack of action) was the result of several interwoven factors which alone would probably not be enough to prevent state (and local) government action. However, combined these forces served to limit Maryland's response to the oyster dredger's health problems.

The State Board of Health for Maryland was concerned with collecting reliable vital statistics and providing for the sanitary welfare of the whole state rather than caring for a specific group. Concurrently, the state was disinclined to intervene into the private economic affairs of the oyster industry. The legal concepts of Contributory Negligence, the Doctrine of Assumed Risk, and the Fellow Servant Rule guided Gilded Age safety regulations. These legal ideas placed the burden of workplace safety on the employee, not the employer.[112] Furthermore, the state considered it more important to protect the health of the Chesapeake oyster, thereby preserving the Maryland oyster industry which employed thousands of individuals and brought millions of dollars into the state.[113]

In general, historians' understanding of the expansion of government involvement in providing medical relief has been that local governments, responding to local health crises, were

[112] Mohun, *Risk*; David Rosner and Gerald E Markowitz, *Deadly Dust: Silicosis and the Politics of Occupational Disease in Twentieth-Century America* (Princeton, NJ: Princeton University Press, 1991).
[113] Christine Keiner, *The Oyster Question: Scientists, Watermen, and the Maryland Chesapeake Bay since 1880* (Athens, GA: The University of Georgia Press, 2010), chap. 1.

the first to become active in organizing or directing health and sanitation initiatives.[114] In part, this is a result of many health risks being local in character. For example, in response to the threat of cholera, New York City created a Board of Health with police powers in 1866.[115] Aided by emerging germ theory (thanks to John Snow's research into the 1854 cholera outbreak in London), the city was able to avoid the disastrous death tolls of the previous outbreaks in 1832 and 1849.

This illustrates not only how, in general, responses to a medical crisis were local in origin, but also shows the one most important features that made government intervention acceptable: transmittable disease. Transmittable diseases posed a public threat, and that threat required government action, after Robert Koch's discovery of the tuberculosis bacteria, *Mycobacterium tuberculosis*, and the adoption of his theories, what was once considered consumption became the contagious disease tuberculosis.[116] This confirmation of communicability encouraged city governments to campaign against the disease through education and the policing of public life.[117]

The question of public or private risk is necessary to understand in the context of government intervention into medical issues. The government found it easier to justify an intervention when there was a danger to the health and safety of the public. Concern over the many dangers involved in riding on the railroad forced the enactment of regulations in the mid-nineteenth century to provide for the safety of passengers. These safety regulations also

---

[114] Skocpol, *Protecting Soldiers and Mothers*; Duffy, *The Sanitarians*.
[115] Charles E Rosenberg, *The Cholera Years; the United States in 1832, 1849, and 1866.* (Chicago, IL: University of Chicago Press, 1962). –The NYC Board of Health was dissolved after the cholera threat passed.
[116] Thomas M. Daniel, *Captain of Death: The Story of Tuberculosis* (Rochester, NY: University of Rochester Press, 1997), 74–86.
[117] Katherine. Ott, *Fevered Lives: Tuberculosis in American Culture since 1870* (Cambridge, MA: Harvard University Press, 1996); Linda. Bryder, *Below the Magic Mountain: A Social History of Tuberculosis in Twentieth-Century Britain*, Oxford Historical Monographs; Oxford Historical Monographs. (Oxford, UK: Clarendon Press, 1988); Daniel, *Captain of Death*.

unintentionally improved the safety of railway workers.[118] As Arwen Mohun notes in *Risk*, one of the biggest questions facing officials was "What kind of risks threatened the common good and were, therefore, an appropriate target for collective [government] action, and which were a private matter?"[119]

Another factor influencing government medical intervention was the nature of that medical risk. Dangers to one's health came in two forms: injury and disease. For the purpose of this thesis, *injury* will be defined as any damage caused to the body by a physical force that does not result in a substantial negative biological change to the body. For *disease,* this thesis will use the definition put forth by Charles Rosenberg in *Framing Disease*: the biological manifestation of medical knowledge as informed by social norms. Disease is a manifestation of social abnormality categorized by medical science. One of the most famous examples of this is homosexuality which was categorized as a disease because it deviated from the social norm[120] This categorization is possible thanks to the cultural authority afforded to the medical professions in the late nineteenth century; this authority means medicine could construct "reality through definitions of facts and value."[121] Of the two, injuries are more common and acceptable. To suffer an injury is normal, dependent upon the context wherein the injury is received; it is normal for a chef to be burned and cut, but such injuries do not usually occur in an office. Injury on a factory floor or skipjack, then, was normalized.

It is the lack of a normalizing context that allows a culture of fear to develop around diseases. All diseases modify the "emotional and intellectual climate" of the societies which they

[118] Mohun, *Risk*, 91–115.
[119] Ibid., 5.
[120] Charles E. Rosenberg, Janet Lynne Golden, and Francis Clark Wood Institute for the History of Medicine, eds., *Framing Disease: Studies in Cultural History*, Health and Medicine in American Society (New Brunswick, NJ: Rutgers University Press, 1992), 305.
[121] Starr, *The Social Transformation of American Medicine*, 13.

infect, and those which infect in waves of death engender strong emotional reactions, which in turn cause intellectual, social, and physical reactions.[122] Therefore, industries have long fought against classifying occupational health problems as diseases, for it changes the ontology of the problem that alters the discourse by making it a physical threat to one's health.[123] For example, mining interests fought against the labeling of *black lung* as a disease—with some going so far as to suggest it was a prophylactic for tuberculosis.[124] In the twentieth century, manufacturers obscured the connection between uranium exposure and cancer and challenged defining lead poisoning as a legitimate illness, because such changes would alter the dynamic of the problem by shifting the causal blame from the employee to the employer.[125]

Disease and especially transmittable disease is a real, though at times exaggerated, threat to the public's health. Cholera, tuberculosis, malaria, yellow fever, or, to draw on a more contemporary example, Ebola, all capture the public's attention because they are scary and force a government to respond because they are dangerous. Maryland's Board of Health chose to focus on combating diseases that threatened the general public over those which tended to infect a specific demographic. For the oyster dredger, this meant that the State Board of Health ignored their plight to focus on the "general care of the sanitary interest of the people."[126] Instead of regulating the working conditions on skipjacks, the state focused on collecting vital statistics,

---

[122] René J. Dubos and Jean Dubos, *The White Plague: Tuberculosis, Man and Society*, (Boston, MA: Little, Brown, 1952). VII.
[123] Charles E Rosenberg, *Explaining Epidemics and Other Studies in the History of Medicine* (Cambridge, UK: Cambridge University Press, 1992), 305.
[124] Alan Derickson, *Black Lung: Anatomy of a Public Health Disaster* (Ithaca, NY: Cornell University Press, 1998).
[125] For works on radium and cancer see: Ross M Mullner, *Deadly Glow: The Radium Dial Worker Tragedy* (Washington, DC: American Public Health Association, 1999); Claudia Clark, *Radium Girls, Women and Industrial Health Reform: 1910-1935* (Chapel Hill, NC: University of North Carolina Press, 1997); Ellen Leopold, *Under the Radar: Cancer and the Cold War* (New Brunswick, NJ: Rutgers University Press, 2009). For works on lead poisoning see: Christian Warren, *Brush with Death: A Social History of Lead Poisoning* (Baltimore, MD: Johns Hopkins University Press, 2000); Gerald E Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution* (Berkeley, CA: University of California Press, 2002).
[126] *Seventh Biennial Report of the State Board of Health of Maryland,* 1888, 1, Courtesy of the Maryland State Archives.

regulating the practice of medicine, and managing Maryland's water to prevent the spread of infectious diseases.

*Concerns of Water*

One of the areas boards of health most focused on was water management. Improper management of water resources can lead to drastic negative health consequences. Beyond being an "immense protein factory," the Chesapeake was also a great sewer and waste treatment plant.[127] Much of Maryland's refuse was dumped directly into the Bay and its tributaries. This method of waste disposal, called dilution, relied on the Bay's vast size to dilute contaminants to where their presence did not pose a health threat and then over time natural processes would break down or remove microbes.[128] This was the method proposed by the City of Baltimore for its new sewage system, but was blocked due to the danger such a system would pose to the oyster population.[129]

Even before John Snow's study in 1854, people knew that water management was a way to mitigate the spread of disease.[130] Therefore, to maintain public sanitation, one of the Board of Health's priorities was the management of potable water and the improvement of sewage disposals. Access to clean water and the removal of sewage was of particular concern to the City of Baltimore. In its 1884 Annual Report, the City's Board of Health highlighted the dangers of an inadequate sewage system and its contamination of drinking water. "It is, therefore, simply madness to continue to use such an obviously dangerous source of cholera contagion" (in

[127] John Capper, Garrett. Power, and Frank R. Shivers, *Chesapeake Waters: Pollution, Public Health, and Public Opinion, 1607-1972*, 1st ed. (Centreville, MD: Tidewater Publishers, 1983).
[128] Martin V. Melosi, *The Sanitary City : Environmental Services in Urban America from Colonial Times to the Present* (Baltimore, MD: Johns Hopkins University Press, 2008), chap. 8.—Ironically, as we shall see, oysters played a big role in this process.
[129] Capper, Power, and Shivers, *Chesapeake Waters*, 89.
[130] Melosi, *The Sanitary City*.

Baltimore privies were placed near public water pumps without a *cordon sanitaire).*[131] In 1885 the City's Board of Health repeated its call for the improvement of the city's sewage system, listing the three leading causes of death for the municipality as old age, consumption, and cholera.[132] In its 1888 report, the City's Board declared that thanks to the Plumbing Ordinance of 1884, which required inspection of water systems by sanitary officers, the reduction in deaths for the city were "very remarkable."[133] The State Board of Health was less impressed, noting that "had sewage works of any comprehensive plan been executed in Baltimore ten years ago, the city's death rate would probably stand at 12 in 1000," instead of 25 in 1000.[134]

There was also great concern over how wastewater, anthropogenic or otherwise in origin, could pollute the Bay. More alarmingly, this pollution could contaminate the state's oyster beds. Since the oyster industry was fundamental to the state's economy, and any contamination of Maryland's main export would be devastating. As early as 1886, state authorities were cognizant of the danger water pollution posed to the oyster population and economic health of Maryland. "The effect that the emptying of such an enormous volume of human excrement [from Baltimore] into the Bay would have upon the fish and oyster—this is also a matter of serious contemplation."[135] In 1924, the mere suggestion that oysters from the Chesapeake could contain typhoid resulted in a cessation of harvesting until the completion of an investigation by the State

[131] *Annual Report of the Health Department of the City of Baltimore, to the Mayor and City Council of Baltimore, for the Fiscal Year Ending in December 31, 1884*. 1885, 711–12., Courtesy of the Maryland State Archives.
[132] *Annual Report of the Health Department of the City of Baltimore, to the Mayor and City Council of Baltimore, for the Fiscal Year Ending in December 31, 1885*. 1886, 359–67, Courtesy of the Maryland State Archives.
[133] *Annual Report of the Health Department of the City of Baltimore, to the Mayor and City Council of Baltimore, for the Fiscal Year Ending in December 31, 1888*. 1889, 302, Courtesy of the Maryland State Archives; Carroll Fox, "Public Health Administration in Baltimore: A Study of the Organization and Administration of the City Health Department," *Public Health Reports (1896-1970)* 29, no. 24 (1914): 1546.—The actual reduction was a twenty percent decrease from 28 (1836-1883) to 22 (1884-1888) percent of deaths being caused by zymotic diseases. The ordinance was enacted in 1884.
[134] *Ninth Biennial Report of the State Board of Health of Maryland for the Two Years Ending December 31st, 1891*. (C. H. Baughman & Co, State Printers, Annapolis., 1892), 16 and 327, Courtesy of the Maryland State Archives.
[135] *Sixth Biennial Report of the State Board of Health of Maryland, January 1886.* (Printed by George T. Melvin, 1886), 30, Courtesy of the Maryland State Archives.

Board of Health. By the time that the inquiry was over, the season had ended, and the harvest for the year—and associated income—was significantly lower than previous years.[136]

The concern of oyster contamination was the direct cause of Baltimore's lackluster sewer system during the nineteenth century. Both the state and local Boards of Health called for the implementation of some sewage system in the city to move contaminated water away from the city and preserve clean water for Baltimoreans.[137] As a result, the City's Board suggested a system whereby the untreated refuse from the city would be pumped out into the Patapsco River. (fig. 10)The oyster industry vigorously opposed this proposal because of concerns that the sewage would contaminate the oyster beds around the Patapsco River. Only when the city agreed to construct the most advanced wastewater treatment facility in the country did the oyster interests greenlight Baltimore's sewage system.[138] Instead of using a dilution method, the city opted for a treatment system that would protect the oyster stocks from possible contamination. Consequently, in 1912 Baltimore was the first major city in the country to have a wastewater treatment plant.[139]

---

[136] "Report from W.H. Marsh, Acting Assistant Surgeon U.S.P.H.S., Relief Station #332" 1925. U.S. Public Health Service District #2, Baltimore, MD. Box 333, Record Group 90; National Archives at College Park, College Park, MD.—Though, it should be noted, that the 1920s was the beginning twilight years of the oyster industry in Maryland.

[137] Between 1884 and 1888 every report form the city's Board of Health called for the implementation of a sewage system: *Annual Report of the Health Department of the City of Baltimore, to the Mayor and City Council of Baltimore, for the Fiscal Year Ending in December 31, 1884*; *Annual Report of the Health Department of the City of Baltimore, to the Mayor and City Council of Baltimore, for the Fiscal Year Ending in December 31, 1885*; *Annual Report of the Health Department of the City of Baltimore, to the Mayor and City Council of Baltimore, for the Fiscal Year Ending in December 31, 1887*. 1887, Courtesy of the Maryland State Archives; *Annual Report of the Health Department of the City of Baltimore, to the Mayor and City Council of Baltimore, for the Fiscal Year Ending in December 31, 1888*.

[138] Ibid., 86–92.

[139] Melosi, *The Sanitary City*, 144-173.—Baltimore had a 35% reduction in typhoid deaths from 1900 to 1913. Between 1910 and 1920 the number of people in the U.S. using treatment systems almost doubled form 4.5 million to 9.5 million.

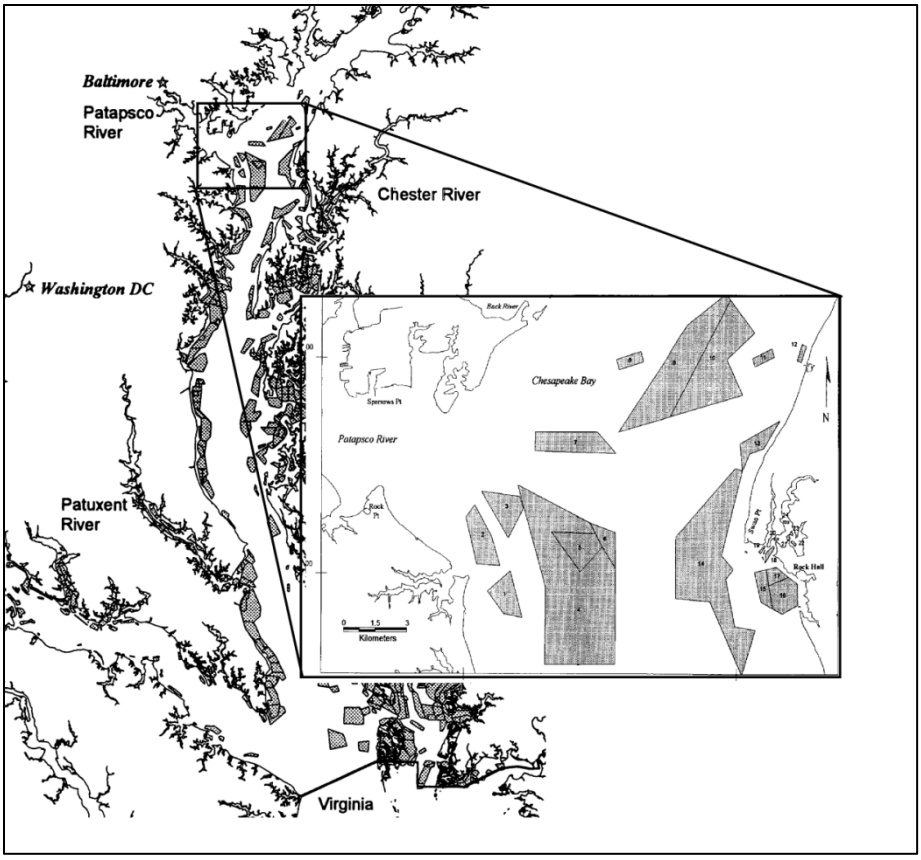



Figure 10: A map of the oyster beds near the Patapsco River. "Maryland's Historic Oyster Bottom: A Geographic Representation of the Traditional Named Oyster Bars." Maryland Department of Natural Resources Fisheries Service Cooperative Oxford Laboratory Mapping and Analysis Project. October 1997.

Concern for the danger presented by waterborne diseases such as cholera convinced health officials of the need to properly manage public water sources. However, these concerns ran up against one of the state's most important industries, economically and politically. Protection of the oyster tempered concern for human health. In fact, the dumping of effluence into the Bay was used as a scapegoat for the depletion of oyster stocks, deflecting suspicion from poor resource management and over-harvesting.[140]

The Maryland oyster industry was not, however, all-powerful, as it could not stop the state from regulating the practice of dredging.[141] Even that regulation, though, was about the preservation of the oyster beds to placate the politically significant tongers of the tidewater

[140] Capper, Power, and Shivers, *Chesapeake Waters*, 82.
[141] See Chapter II.

counties, and the enforcement of these regulations was limited. [142] Regulations by the General Assembly sought to preserve the health and safety (through limits on sewage and extraction) of oysters under the guise of protecting labor from elite economic interest. This is not to suggest that the elevation of the bivalve over the bipedal was a net-negative for public health, but that it altered the concepts of water control. This alteration at times prevented effective water controls from being implemented, but also resulted in Baltimore City having one of the most advanced water treatment plants in the country.[143]

*Role of the State Board of Health of Maryland*

The State Board of Health of Maryland recommended that Baltimore City construct a sewage system because it fell within its *modus operandi* of preventing the spread of infectious diseases. To understand why the State Board of Health was disinclined to provide medical care for oystermen we need to understand how the Board operated within the state of Maryland. The Board was primarily concerned with providing for general sanitation of the state, creating and enforcing professional standards, and the collection of vital statistics. Formed in 1874 by the General Assembly, the Board of Health initially lacked any enforcement or regulatory powers; this was common for many state health agencies.[144] The Board acted as an advisory body to the General Assembly and the governor, and consisted of six to ten members, most of whom were doctors (along with the Attorney General, who was an ex officio member). As described by Mohun in *Risk*, new regulatory agencies needed first to gather data before having the authority to

[142] Keiner, *The Oyster Question*, 2010, chaps. 1 & 2.
[143] Capper, Power, and Shivers, *Chesapeake Waters*, 89.
[144] Alice Hamilton, *Exploring the Dangerous Trades; the Autobiography of Alice Hamilton, M.D.* (Boston, MA: Little, Brown and Company, 1943).

make recommendations to state legislatures.[145] However, without any local health boards (except Baltimore City) there was little the Board could do in the enforcement of health laws or the regulation of sanitation. In 1886, the Board had its powers expanded, allowing it to enforce some regulations and create local boards of health. However, the local government would appoint the board members.

In the State Board of Health's Eighth Report (1890) the Board noted, "This act [the 1886 law] has not been carried out generally" and "[u]nder the present circumstances, many counties are practically without any local sanitary supervision whatever." [146] Later in the century, after the establishment of local health boards, there was still great difficulty getting consistent enforcement of health regulations. Even when health boards were set up in the 23 counties and Baltimore City, this did not correlate to effective administrative coordination. For example, the 1907 Maryland Board of Health report included a section for reports from local boards, and several counties failed to submit a report.[147]

While the administrative misalignment between state and county-level institutions caused some problems for collecting vital statistics and enforcement of health regulations, the Board of Health's self-conceived mission is what established their regulatory relationship with the state's populous. Largely, the Board of Health was concerned with defending the public against transmittable diseases. At its inception in 1874, the Board focused on establishing a knowledge base to provide for the common interest. The first report produced by the board, two years after its creation, noted:

---

[145] Mohun, *Risk*, 117–20.
[146] *Eighth Biennial Report of the State Board of Health of Maryland for the Years Ending December 31st, 1889*. 64. Courtesy of the Maryland State Archives.
[147] *Annual Report of the State Board of Health of Maryland for the Year Ending December 31, 1907.* (Printed by Geo. W. King Printing Co., State Printers., 1907), Courtesy of the Maryland State Archives.

1) That many common diseases are preventable, and;
2) They are preventable in the sense of being dependent on the removal of conditions which operate on the people as a whole.[148]

In the late nineteenth century, the idea that a disease was contagious was not an established scientific fact.[149] John Snow had found a strong correlative connection between cholera and contaminated drinking water in his investigation of London in 1854; however, transmittable diseases were considered the exception, not the rule.[150] The gradual acceptance of germ theory through the late nineteenth century showed to health officials that the causes of disease were anthropogenic in origin.[151] This meant that it was now possible to control the spread of a disease. This control came in two forms: control of the environment and control of human behavior. In *The Gospel of Germs,* Nancy Tomes explains that germ theory did not change the loci of blame for illness, which remained focused on actions of the individual.[152] Before germ theory, it was believed that a person's life choices were the cause of his/her illness in a moral sense. Consumption, for example, was thought to be caused by alcoholism and prostitution.[153] After germ theory, an individual's life choices were the cause of his/her illness in a literal sense. These life choices centered on ideas of cleanliness as correlated with an individual's moral character.[154] Controlling an individual's behavior was then necessary for

[148] *First Biennial Report of the State Board of Health, of Maryland. January, 1876.* (Printed by John F. Wiley, 1876), 24, Courtesy of the Maryland State Archives.
[149] Daniel, *Captain of Death*.
[150] Rosenberg, *The Cholera Years; the United States in 1832, 1849, and 1866.*—John Snows study into the epidemiology of cholera in London, 1854, helped disprove the notion that it was caused as a result of miasma. Snow was able to positively correlate cholera with fecal contamination of drinking water. This new knowledge was put to use through public health policies in New York during the 1866 outbreak, resulting in a significant reduction in the number of cholera related deaths.
[151] Robert Koch's 1882 study of tuberculosis is widely credited with confirming germ theory for most doctors.
[152] Nancy Tomes, *The Gospel of Germs: Men, Women, and the Microbe in American Life* (Cambridge, MA: Harvard University Press, 1998).
[153] David S. Barnes, *The Making of a Social Disease Tuberculosis in Nineteenth-Century France*, (Berkeley, CA: University of California Press, 1995), 8–10,126–9, 137–140.
[154] Tomes, *The Gospel of Germs*, 1998, chap. 8.

controlling the spread of disease, and took precedence over environmental control. The power for that behavior control came from the new authority given to doctors and health officials thanks to scientific advances and professionalization.[155] During the second half of the nineteenth century, the position of the physician in American society was in flux. The profession itself became redefined with a new focus on education grounded in the unbiased sciences. Medical societies (most notably the American Medical Association) enforced professional standards to help ensure the social authority of the doctor. These reforms included the development of more rigorous educational apparatuses in the 1870s. By the end of the nineteenth century, the reforms had resulted in a system of schooling which would be recognized today. This move toward institutionalization can be found in other professions and is emblematic of the growing professionalism advocated by progressive reformers.[156]

This growing progressive sentiment—built upon a genuine concern for the protection of human life along with a desire to expand the authority of doctors—is reflected in the Board of Health's concern with the "[d]epredations of human life by 'quacks' and imposters."[157] The Board noted that having unlicensed individuals practicing medicine is a threat to public health,

---

[155] Daniel J. Kevles, *The Physicists : The History of a Scientific Community in Modern America* (Boston, MA: Harvard University Press, 1978); Edwin T. Layton, *The Revolt of the Engineers; Social Responsibility and the American Engineering Profession* (Cleveland, OH: Press of Case Western Reserve University, 1971); Paul Starr, *The Social Transformation of American Medicine* (New York, NY: Basic Books, 1982).

[156] Edwin T. Layton, *The Revolt of the Engineers.* --Engineers began to organize, and establish codes of ethics, in part to ensure their professional independence. This independence was defined in terms of their relationship to the business/factory owners, and can be understood as a transition from blue to white collar work.; Ott, *Fevered Lives*; Barbara Bates, *Bargaining for Life: A Social History of Tuberculosis, 1876-1938*, (Philadelphia, PA: University of Pennsylvania Press, 1992)—In the cases of tuberculosis, we see that a new Progressive focus on using scientifically sound information went hand-in-hand with the development of new professional health departments, and progressives in many cities sought to limit outbreaks through police powers. It should be noted that many doctors resented the encroachment of public health officers into their territory.; Melosi, *The Sanitary City*.—Sanitarians and civil engineers became a loci of professional authority, which challenged the often corrupt machine politics of many cities. Their focus on professionalism was also considered by many to be anti-democratic.

[157] *Seventh Biennial Report of the State Board of Health of Maryland*. 1888. Courtesy of the Maryland State Archives. 48-50.

and "the most incompetent and illiterate individual in the state . . . can call himself a doctor." [158] The Board goes on to ask for the General Assembly to pass legislation that would require any person wishing to work as a physician in the state of Maryland to have "received the degree of doctor in medicine from some institution empowered by law to grant the degree."[159] It would then remain in the power of the Board to verify these degrees. A draft bill was submitted to the General Assembly by the State Sanitary Conference in November of 1887 and signed into law the next year.[160]

Beyond maintaining professional hegemony, the Board's primary concern was to work toward the sanitary welfare of the state. One of the main concerns of the Board was the collection of health statistics, and the synthesis of these statistics allowed the Board to develop policies to counteract discovered problems. Regarding public health, this involved the collection of information on births, deaths, and morbidity. In the Board's seventh report, Secretary C. W. Chancellor noted that to provide care for the health of the state there must be "collections of the most complete information available."[161] He then went on to criticize: "Our state has hitherto paid little attention to the important subject of vital statistics, but has contended itself with a knowledge of the fact that its people live and pay taxes, and then die, it knows not how or when."[162]

[158] Ibid. 48.
[159] Ibid., 49.
[160] Hamowy R, "The Early Development of Medical Licensing Laws in the United States, 1875-1900.," *The Journal of libertarian studies* Vol. 3, no. 1 (1979): 113.—That law established educational requirements, a code of medical ethics, and a licensing examination board.
[161] Ibid., 4.
[162] Ibid. 5.

The collection of this data focused on diseases, including consumption/tuberculosis, malaria, cholera, and yellow fever.[163] These diseases presented a danger to the public at large and, in particular, a threat to crowded urban landscapes such as Baltimore City.

The Board of Health considered its primary directive to provide for the sanitation of the state's population. This view was in line with a general transformation of what the government could and should do for its citizenry around this time. The late nineteenth century was a period of bureaucratic fluctuation, where the idea that the government had the power and duty to intrude into the lives of the citizenry in the name of public health started to take hold, though this often brought a clash between the notions of the public good and "individual liberty."[164] There are examples of this in city health departments' attempts to combat tuberculosis; these included efforts to regulate the movements of tubercular individuals, as well as educational campaigns and sanitary investigations.[165] This change also occurred at a time when the evolution of hospitals was shifting away from viewing hospitals as charnel houses toward viewing them as scientific treatment centers. Spurred by advances in science and technology, medicine moved into the public realm with renewed confidence and made aggressive attempts to regulate public life through the application of science by unbiased professionals.

---

[163] Consumption/Tuberculosis: *First Biennial Report of the State Board of Health, of Maryland. January, 1876.* (Printed by John F. Wiley, 1876), Courtesy of the Maryland State Archives; *Seventh Biennial Report of the State Board of Health of Maryland*; *Eighth Biennial Report of the State Board of Health of Maryland for the Years Ending in December 31st, 1889*;*Annual Report of the State Board of Health of Maryland for the Year Ending in December 31, 1898.* 1899, Courtesy of the Maryland State Archives; *Ninth Biennial Report of the State Board of Health of Maryland for the Two Years Ending December 31st, 1891*.; Malaria: Ibid.; ibid.; *Eighth Biennial Report of the State Board of Health of Maryland for the Years Ending in December 31st, 1889*; "Annual Report of the State Board of Health of Maryland for the Year Ending December 31, 1930." (The Sun Job Print, 1931), Courtesy of the Maryland State Archives.; Cholera: *Seventh Biennial Report of the State Board of Health of Maryland*; *Ninth Biennial Report of the State Board of Health of Maryland for the Two Years Ending December 31st, 1891*.; *Eighth Biennial Report of the State Board of Health of Maryland for the Years Ending in December 31st, 1889*; Yellow Fever: *Ninth Biennial Report of the State Board of Health of Maryland for the Two Years Ending December 31st, 1891*."; *Fifth Biennial Report of the State Board of Health of Maryland, January, 1884.* (James Young, State Printer, Annapolis., 1884), Courtesy of the Maryland State Archives.

[164] Duffy, *The Sanitarians*, 3.

[165] David S. Barnes, *The Making of a Social Disease Tuberculosis in Nineteenth-Century France,*; Bates, *Bargaining for Life*; Bryder, *Below the Magic Mountain*.

These regulations of the public sphere were shepherded by the sanitarian movement, which was instrumental in the development of public health agencies in the U.S. Sanitary sciences and professionals "stressed the ubiquity of airborne infection and the disease-causing properties of human waste and organic decay."[166] Of particular concern for sanitarians was the management of municipal water and waste.[167] This is exemplified by the Board of Health for the City of Baltimore's perpetual concern with the management of potable water.

There was, however, some concern over government intrusion into the medical profession, which many doctors saw as a threat to their independence and authority.[168] In the case of tuberculosis, many doctors refused to register any diagnosed cases with local authorities, considering it to be a violation of the patient's rights and an attack upon the physician's professional independence.[169] Maryland's Board of Health also wrestled with these issues. In its 1884 report, the Board discusses "[t]he conflict of state power and individual rights in sanitary matters." That paper's author, Dr. Richard Gundry, considered how sanitary enforcement agencies must walk a tight line between infringing upon individual rights and failing to provide for the general sanitation of the populous. Particularly, he felt that it was important for regulatory agencies to ensure that they have public support for their actions:

> Better by far, that the law be deficient in some detail, with an enlightened and aroused public opinion upon the subject, than the most perfectly devised law with an apathetic or hostile sentiment in the community where it is to be enforced. There is in reality no law so inefficient as that which is not fully supported by public opinion. If enforced it is regarded as tyrannical.[170]

[166] Nancy Tomes, *The Gospel of Germs : Men, Women, and the Microbe in American Life* (Cambridge, MA: Harvard University Press, 1998), 8.
[167] Ibid., 51; Duffy, *The Sanitarians*, 176.
[168] Starr, *The Social Transformation of American Medicine*.
[169] Ott, *Fevered Lives*, 127–29.
[170] *Fifth Biennial Report of the State Board of Health of Maryland, January, 1884.* 146.

*Views of the Oyster Dredgers*

The State Board of Health considered it its duty to provide for the general public, navigating the line between encroachment into private affairs and an abridgment of public trust. This is not to suggest that the Board failed to recognize that selected occupational demographics faced specific risks. The Board was well aware of the problems facing many Maryland workers. In 1888 it published, as part of its Biennial Report, an examination of the "Sickness Among the Laboring Class." First, and ironically, considering the Board's previous calls for comprehensive data collection, it noted that the State lacked any data on the subject. The Board suggested that once there is an accurate census of sicknesses among laborers the legislature could take proper action.

Despite the dearth of data, the Board still attempted to comment on the state of illness among laborers. Though thoroughly ensconced in the Doctrine of Assumed Risk, the Board also conceded that perhaps there were some "methods of work which admit of change."[171] The Board considered most health issues faced by the workers to be of their own doing, suggesting that these workers would be more likely to change their habits when faced with hard data than the "most inflammatory preaching."[172]

Education to modify behaviors was a common technique used by public health officials in the nineteenth century. For example, city employees would hand out pamphlets telling people how to avoid tuberculosis and often the solution was to avoid alcohol.[173]As noted previously,

---

[171] *Seventh Biennial Report of the State Board of Health of Maryland,* 12. For works on the Doctrine of Assumed Risk see: Mohun, *Risk*; Jacqueline K. Corn, *Response to Occupational Health Hazards : A Historical Perspective* (New York, NY: Van Nostrand Reinhold, 1992); Markowitz and Rosner, *Deceit and Denial*; Rosner and Markowitz, *Deadly Dust*.—*Risk* discusses American understandings of, and reactions to, health risk posed to society. *Responses* and *Deceit* both provide general overviews of industrial health risk, and the responses they engendered. While, *Deadly Dust* provides a specific case study of the disease silicosis in the 1930s.

[172] *Seventh Biennial Report of the State Board of Health of Maryland,* 12.

[173] Tomes, *The Gospel of Germs*, 1998; Bryder, *Below the Magic Mountain*.

immoral behavior correlated to illness. This was also true in an industrial setting. Many sanitarians thought smoking and drinking caused lung disease among industrial workers because such activities were immoral.[174] In the eyes of many officials, poor moral judgment caused most industrial accidents. Before and after Germ Theory's acceptance, the general assumption was that the working poor were responsible for their health problems. Vices are a great scapegoat for disease, and the Board of Health was not opposed to naming them as the instigators of poor health among the workers.[175] In a paper entitled "Mortality among Farmers, Laborers, and Mechanics," the Board expressed concern for the health of these workers, noting that about one-quarter of the state was employed in these trades (which would include oystermen). Improving their health meant improving their habits so that they would have "less temptation than before to some forms of excesses injurious to health."[176]

Concern for the dangers of industrial disease and hazards by the Board correlated with concerns for the economic wellbeing of the state and were in line with the ideas of many sanitarians of the late nineteenth century. John Duffy shows in *The Sanitarians* that many public health officials equated good health with economic prosperity.[177] As the Board itself noted: "A high death rate . . . implies not only a waste of life, but a concurrent waste of time and energy."[178] Ensuring a healthy populous had economic implications because a healthy populous

---

[174] Derickson, *Black Lung*; Rosner and Markowitz, *Deadly Dust*. Part of this also was caused by the fact that these diseases often had decade long latency periods, making it difficult to establish the cause of the disease.
[175] Tomes, *The Gospel of Germs*, 1998; Dubos and Dubos, *The White Plague*; Derickson, *Black Lung*.
—In *The Gospel of Germs* Tomes elaborates on how the dirty living conditions of immigrants (which was considered their doing) made them unhealthy. In *The White Plague* we are shown that urban vices (drinking, prostitution, etc.) were all assumed to be the reason for why the working poor were susceptible to tuberculosis. Finally, Derickson explains in *Black Lung* that alcoholism was given as a culprit for pneumoconiosis.
[176] *"Eighth Biennial Report of the State Board of Health of Maryland for the Years Ending December 31st, 1889.,* 118.
[177] Duffy, *The Sanitarians*, 4.
[178] State Board of Health of Maryland, *Ninth Biennial Report of the State Board of Health of Maryland for the Two Years Ending December 31st, 1891.*," 15.

is a productive one.[179] This argument provided the state with an economic incentive to protect worker's health; preservation of health undoubtedly was also about preserving Maryland's industrial and agricultural productivity.[180] This is not to imply that the Board was composed of Gilded Age taskmasters more concerned with profit than human dignity, but that there was a parallel consideration to be taken when providing for sanitary regulation and enforcement. One should not take the Board highlighting that improvements in health will improve the productivity of the state as a callous write-off of working class laborers, but as a tactical move to garner more support for health regulations. The Board itself lacked legislative powers; it only had the power to report and make suggestions to the General Assembly. For the Board to bring what it saw as proper regulations into force it had to convince the legislature that these proposed laws would be beneficial to the whole state by protecting the health of its citizens without retarding its economic output.

The Board focused on threats to the entire public and at rare times focused on selected groups such as laborers. In only a single instance between 1874 to 1900 did the Board directly address the hygienic conditions of oyster dredgers. In its 1878 biennial report, as part of a wider discussion on ventilation, the board called for the hulls of skipjacks to be ventilated. [181] As the Board noted, at that time almost 6,000 oystermen were working the Bay: "The oyster-trade is amongst the largest in this State, and hence, numerically and financially considered, the sailors of the State demand attention of our statesmen."[182]

---

[179] R. A. Lewis, *Edwin Chadwick and the Public Health Movement, 1832-1854.* (London, UK: Cedric Chivers, 1952); Robert B. Ekelund, *The Economics of Edwin Chadwick : Incentives Matter* (Cheltenham, UK: Edward Elgar Publishing Limited, 2012).
[180] *Sixth Biennial Report of the State Board of Health of Maryland, January 1886.*
[181] *Second Biennial Report of the State Board of Health of Maryland. January, 1878.* 33–36, Courtesy of the Maryland State Archives.
[182] Ibid., 33.

However, like with other reports on the workers of the state, the Board was quick to asterisk their report with a note about the disposition of oyster dredgers: "Mentally they are ignorant, superstitious, and dull."[183] The industrial dredger was nothing more than a dullard, incapable of the higher levels of thought necessary to understand why he was ill. This was one of the greatest paradoxes facing the industrial health field. The laborer was largely ignorant of how to care for his sanitation, and that ignorance prevented him from rising to a better state of health. Improvements in health had to be accomplished through establishing control, either of the environment or body.[184] The trend had been to control the body, as that would impose fewer restrictions upon business.[185]

While the state was perfectly willing to regulate the common environment of the Bay, the private environment of the skipjack was considered off limits.[186] The Board, it seems, like many health agencies, had restricted access to areas of economic production in part because they did not want to interfere with productivity, but also because of the political power of the captains of these economic vessels.[187]

Another reason why the Maryland Board of Health seemed to have little interest in intervening on behalf of laborers, and specifically oyster dredgers, was that such intervention would also cross regulatory jurisdictions. Both The Oyster Commission and the Bureau of

---

[183] Ibid.

[184] See for examples of attempts to control the body: Tomes, *The Gospel of Germs*, 1998; ibid.; Dubos and Dubos, *The White Plague*.

[185] Rosner and Markowitz, paragons of industrial health history, have produced many books looking ate controls of the workers environment t and body: Markowitz and Rosner, *Deceit and Denial*; ibid.; David Rosner and Gerald E Markowitz, *Dying for Work: Workers' Safety and Health in Twentieth-Century America* (Bloomington, IN: Indiana University Press, 1987); Rosner and Markowitz, *Deadly Dust*.

[186] John R. Wennersten, *The Oyster Wars of Chesapeake Bay* (Centreville, MD: Tidewater Publishers, 1981); John R. Wennersten, *The Chesapeake: An Environmental Biography* (Baltimore, MD: Maryland Historical Society, 2001); Keiner, *The Oyster Question*, 2010.

[187] For more on the political connects of oyster captains see Wennersten, *The Oyster Wars of Chesapeake Bay*, 1981. Ch. 2. He offers a particularly lively discussion on how it was impossible to convict a captain of any crime as the justice of the peace in Crisfield also ran the saloon which they frequented.

Industrial Statistics and Information had oversight authority of the oyster industry; this raises a question as to whose responsibility the welfare of that laboring class fell. The Board of Health, as we have seen, was leery of encroaching into the domain of private individuals, and the domain of economic production areas: skipjacks. There was more cause for the Bureau of Industrial Statistics to engage with these industrial units than the Board of Health. Much like the Board of Health, though, the Bureau was more interested in the collection of data than intervening into the affairs of industry and labor. Such interventions, limited as they were, were focused on keeping the peace in Maryland. "It has been the aim of the Bureau to encourage such relations, and to do no act which could jeopardize the friendly conditions which have been happily maintained between labor and capital in Maryland."[188]

The Oyster Commission had the most oversight of the oyster industry. It, however, was more concerned with the maintenance of the oyster resources in Maryland. This predilection to prioritize bivalves over people was practically state dogma. Concerns for the oyster cascaded through the government, filtering through the different branches and levels to create a policy that prioritized the transitory economic solvency of the oyster stocks over long-term management of the industry, including care for its laborers.[189]

When discussing the welfare of oystermen, the language of the Commission or Bureau placed the preponderance of blame for poor health on the worker. This outlook was in line with

[188] *Third Biennial Report of the Bureau of Industrial Statistics and Information of Maryland, 1888-'89.*(George T. Melvin, State Printer, Annapolis, 1890), 8, Courtesy of the Maryland State Archives.

[189] John Capper, *Chesapeake Water* ; Keiner, *The Oyster Question*, 2010; John R. Wennersten, *The Chesapeake: An Environmental Biography* (Baltimore: Maryland Historical Society, 2001); "Work and Health of the Chesapeake Bay Commercial Fishermen of Somerset County, Maryland," accessed April 6, 2016, http://ufdc.ufl.edu/UF00103067/00001; Bradford Botwick and Debra A. McClane, "Landscapes of Resistance: A View of the Nineteenth-Century Chesapeake Bay Oyster Fishery," *Historical Archaeology* 39, no. 3 (2005): 94–112.—There is a slight discrepancy in the literature over exactly how important the industry was to Maryland. For most, oystering—and later crabbing—was vitally important to the economic health of the state. Christine Kiener shows that almost 3 percent of Maryland's residents were employed by the industry. (36) However, Capper et al suggest that its political weight over exaggerated its economic importance. (76) Whether it was the most economically important, and much of the primary literature in Chapter II would suggest it was, does not diminish the centrality of the oyster to Maryland.

the views of many medical professionals during the nineteenth century.[190] Connected to this was the racial makeup of the dredging workforce, comprised predominantly of immigrants—in fact, it may be surprising to learn that in 1894 fewer than 12 percent of the dredgers were native Marylanders. The majority of dredgers were illiterate as well.[191] Conversely, almost every captain was a Marylander, because all skipjacks had to be owned by a state citizen.[192] The captains were all, apparently, "citizens of the state" and had" a social standing in their local community." That is to say, they are all native Americans and native Marylanders. Seemingly at odds with secondary literature, and reports from *The Sun* and the Marine Hospital Service, the Bureau of Industrial Statistics held skipjack captains in high regard.

> Away from the Chesapeake the Maryland dredge captain is regarded as a reckless and lawless class of man; this does these men a great injustice; they are peacefully disposed as the gentility of Mankind, engaged in a lawful and useful occupation. But, it is not surprising that out of 800 dredging captains there should be a few reckless and unprincipled persons.[193]

This is clearly an exaggeration of the situation on the Chesapeake. That there were honest and dishonest captains is not in dispute, merely the ratio. There is little doubt that the political power of the skipjack captain played a role in these generous descriptions; these were not simply

[190] Mohun, *Risk*; Warren, *Brush with Death*; Rosner and Markowitz, *Deadly Dust*; Derickson, *Black Lung*.
[191] Charles H. Stevenson, "The Oyster Industry of Maryland" in *Sixth Biennial Report for the Bureau of Industrial Statistics and Information of Maryland, 1894-'95.* (pp: 270-385). 1895, 284–87, Courtesy of the Maryland State Archives. Most of the immigrants were literate at 55 percent, while 75 percent of American natives were illiterate.
[192] Keiner, *The Oyster Question*, 2010, Ch.2. Mostly working as tongers or packers, but a smaller percentage were dredgers. For more direct example of this see: Wennersten, *The Oyster Wars of Chesapeake Bay*, 1981. 64-9.; Nancy Tomes's *The Gospel of Germ,* does an elegant job in looking at conceptions of health as applied to immigrants. Succinctly summarized after Robert Koch's 1883 discovery non Anglo-Saxons were considered inferior in their ability to understand *germ theory* and hence properly manage their environment to ensure good health; or their genetic make-up made them particularly vulnerable to disease. This was a simple continuation of pre-germ theory racial assumption. Similar ideas were espoused about African-Americans as well. For a thorough investigation of racialized biological determinism see: Susan Reverby, *Examining Tuskegee: The Infamous Syphilis Study and Its Legacy* (Chapel Hill, NC: University of North Carolina Press, 2009) and Warwick Anderson, *Colonial Pathologies: American Tropical Medicine, Race, and Hygiene in the Philippines* (Durham, NC: Duke University Press, 2006).
[193] Stevenson, "The Oyster Industry of Maryland," 285. For particularly vivid descriptions of mistreatment see: Wennersten, *The Oyster Wars of Chesapeake Bay*.

captains of vessels, but also of industry, a gentry of the Bay with deep political connections to local elites.[194] It is important to remember that power in Maryland was federal in style; that is to say, the counties held a lot of administrative and judicial control.[195] This localized control granted skipjack captains the influence of small-scale industrialist.

The Bureau of Industrial Statistics seemed to internalize the view of industrial leaders as exemplars of human economic achievement, believing that through skill and wit these men achieved a greatness that the average worker lacked the merit to achieve. Distinctions of class and ethnic ability are clearly evident in the Bureau's report: The captains "as most other employers of labor, are humane, and considerate of those in their service."[196] Those working for the captains, however, were "unaccustomed to discipline that the exercise of the authority necessary on board a vessel," this "unavoidably produces some unpleasantness between captain and men."[197] Ergo, any resulting mistreatment is just a result of the *nature* of the working conditions and the seedy character of the workforce.

Injury, then, was a product of the hand's inability to care for his safety. This was keeping with Gilded Age approaches to industrial safety, where upon entering employment the laborer assumed the risks of the industrial space. Dredging was considered an industrial form of work; hands working on a skipjack operated within an industrialized setting and so were considered as such by the state of Maryland. This is why the Bureau of Industrial Statistics and Board of Health focused so heavily on the morality of the dredger: because in Gilded Age America that was considered the cause of ill health among the urban working class.[198] These ideas were

[194] Wennersten, *The Oyster Wars of Chesapeake Bay*, 1981.
[195] Herbert C. Smith, *Maryland Politics and Government : Democratic Dominance* (Lincoln, NE: University of Nebraska Press, 2012), Ch. 2 & 13.
[196] Stevenson, "The Oyster Industry of Maryland," 289.
[197] Ibid.
[198] Mark. Aldrich, *Safety First : Technology, Labor, and Business in the Building of American Work Safety, 1870-1939* (Baltimore, MD: Johns Hopkins University Press, 1997); Mohun, *Risk*; Christopher C. Sellers, *Hazards of the*

predominant in public health officials of the time. Before germ theory, disease was "equated with sin."[199] Though, with the advent of germ theory many sanitary scientists were quick to show that this only "verified the 'great truths' of sanitary science."[200] The vector of disease shifted from the divine to the microscopic, but the underlining causes stayed the same. In such an understanding, disease was caused by human action, action that could be controlled, so long as it did not interfere with an economic enterprise.[201]

Skipjacks, however, were also exposed to the elements. In the nineteenth century individuals could not be held responsible for injuries caused by environmental forces. As Mohun states in *Risk*: "The vagaries of weather were the most constant, most pervasive, and least susceptible to human manipulation."[202] This is why the reports from the Board of Health, Bureau of Industrial Statistics, and Oyster Commission largely ignore tongers, because they operated under a preindustrial economic system and did so in an uncontrollable environment; it was accepted that tongers would face health risks. Because however, tongers did not operate under an industrial employment system, but instead were owner and manager of their operations, the state did not need to denigrate their morality to rationalize the health risk they faced on the job.[203] Because dredgers worked in an industrial setting, the Board and Bureau had to use Gilded Age ideas to justify the health risks dredgers faced. Hands on dredging skipjacks were not injured because of their working conditions, but because captains were unable to afford to hire better workers, despite recognizing the "injury that employment of this class or labor is doing to the

---

*Job: From Industrial Disease to Environmental Health Science*, (Chapel Hill, NC: The University of North Carolina Press, 1999); Rosner and Markowitz, *Deadly Dust*; Ott, *Fevered Lives*; Dubos and Dubos, *The White Plague*.

[199] Keller, *Affairs of State*, 4.

[200] Tomes, *The Gospel of Germs*, 1998, 46.

[201] Keller, *Affairs of State*, 289–318.

[202] Mohun, *Risk*, 52.

[203] Stevenson, "The Oyster Industry of Maryland," 283–89. Mohun, *Risk*, 11–90.

reputation of their business—due to the slim profit margins of fishery economics."[204] This resulted in situations where captains, unable to attract a better class of worker had to "resort to methods that strongly resemble impressment and violence."[205]

Vestiges of preindustrial Jeffersonianism can be found in the Bureau's view as well. One report notes that most of the dredgers from Baltimore were much better off on the Bay than in the urban environment of Baltimore City.[206] This runs parallel to growing middle-class concerns about the damage urban industrial life was doing to society.[207] Compounding this, dredging laborers did not operate within older traditions of engaging in a lifetime economic pursuit (as the tongers did), they were "in no sense Bay men."[208]

*Conclusion*

As was shown, there were several factors which prevented the state of Maryland from intervening in the dredging industry to improve the workplace health and safety of skipjacks. These factors were unique to Maryland in their details, but not unique in conception. Concerns about water quality as specifically related to the welfare of oysters over people shows that state officials prioritized the economic competitiveness of the state.[209] Other states were dealing with these same issues but within a different context. It is important to remember that states are often in economic competition with one another. Though Maryland was the nation's largest oyster

[204] Stevenson, "The Oyster Industry of Maryland," 289.
[205] Ibid., 285.
[206] Ibid., 289.—"The men are better off on the Bay than they are in the City."
[207] Studies of tuberculosis offer compelling examples of middle-class concerns about the dangers that working-class urban vices posed to the health of individuals and society. See: Dubos and Dubos, *The White Plague*; Bates, *Bargaining for Life*; Ott, *Fevered Lives*; Barnes, *The Making of a Social Disease Tuberculosis in Nineteenth-Century France*, 1995.
[208] Stevenson, "The Oyster Industry of Maryland," 285.
[209] Christopher C. Sellers, *Hazards of the Job*; Markowitz and Rosner, *Deceit and Denial*; Rosner and Markowitz, *Dying for Work*.

producer, Virginia also harvested oysters.[210] Competition between the two states became so fierce that there was a quasi-war over rights to the Tangier Sound.[211] Similar problems existed in other industries. Coal- producing states were often reluctant to enforce safety rules because they feared that mining corporations would move their operations to states with fewer regulations.[212]

Worrying about damaging an important source of wealth through excessive regulation is not an entirely false line of reasoning. The oyster industry was exceedingly important to the state's economic fortunes.[213] Therefore, it is not unreasonable for the Oyster Commission and Bureau of Industrial Statistics to have been more concerned with ensuring continued profitability of the oyster over the health of the oyster harvester.

The Commission wanted to improve the productivity of oyster grounds through better scientific management and the privatization of oyster beds.[214] *The oyster question* (whether oyster beds should be privatized or left as a common resource) dominated much of the public's attention, and one is more likely to find a discussion of access rights and licensing problems in local newspapers than concerns over the treatment of dredgers.[215] In its 1884 report, the Oyster Commission called for the implementation of private oyster farming, which they claimed could add sixty million dollars to the state's economy.[216]

Furthermore, reform of the industry could potentially expand employment in Maryland: "[The current commons system] has given employment to about fifty thousand of our people for

[210] Keiner, *The Oyster Question*, 2010.—Virginia, unlike Maryland, also introduced private beds. Keep in mind that Virginia's productivity was never near that of Maryland's, due to Maryland's geographic advantage. C*rassostrea virginica* prefer the slainity of the upper Bay.
[211] Wennersten, *The Oyster Wars of Chesapeake Bay*, 46–49. This dispute was solved by a boundary commission, many Maryland oystermen were unhappy with the result.
[212] Derickson, *Black Lung*, 60.
[213] Wennersten, *The Chesapeake*, 2001, 114; Keiner, *The Oyster Question*, 36.
[214] Keiner, *The Oyster Question*.
[215] With one exception being *The Baltimore Sun*, which was very concerned with the condition of the dredger, undoubtedly this was because most of that work force came from Baltimore City.
[216] William Keith Brooks, *Report of the Oyster Commission of the State of Maryland* (Annapolis, MD: 1884), 26.

part of the year, while our grounds should give profitable employment to five hundred thousand people for the whole year."[217] An exaggeration no doubt, but if improving the oyster industry could result in even a slight fraction of that estimate—or simply provide full-time employment to the fifty thousand workers—the net economic benefit to the state would have been quite significant. With millions of dollars and the gainful employment of tens of thousands at stake, it is not difficult to see why regulatory agencies were more concerned with the management of the oyster extraction system as a whole rather than a specific aspect of that system's working conditions.[218] This privatization plan did not get implemented due to the resistance of the politically connected oyster industry, which saw the project to privatize the Chesapeake Bay as an attack on its economic freedom.[219]

On the few occasions the Board of Health and Bureau of Industrial Statistics considered the health of laborers, it did so using the attitudes of experts at that time. Injury was not the result of working conditions, but the actions of laborers. If the working condition was at fault, it was a result of the natural, not human, environment, and so well beyond human control.[220] In such a condition, where the unpredictable nature of the Chesapeake was understood to be the source of most danger, it then fell to the dredging hand to mitigate the potential for injury; the Board of Health noted that laborers would "sustain unnecessary injury to their health from want of pre-caution."[221] In cases of industrial disease, the cause was due to an individual's personal life choices.[222]

---

[217] Ibid., 27.
[218] Ibid., 26–27.—"Our present policy has resulted in the destruction of some of our most valuable beds," with the profit margin being less than a 100 percent return.(27)
[219] Keiner, *The Oyster Question*, 2010.
[220] Sellers, *Hazards of the Job*; Mohun, *Risk*.
[221] *Seventh Biennial Report of the State Board of Health of Maryland,* 12.
[222] Markowitz and Rosner, *Deceit and Denial*; Rosner and Markowitz, *Dying for Work*; Rosner and Markowitz, *Deadly Dust*; Clark, *Radium Girls, Women and Industrial Health Reform*.

The Board of Health was more concerned with the collection of vital statistics and the prevention of disease outbreaks in the state than the dangerous environment of the skipjack. With the growth of urban centers (by 1920 sixty percent of the state lived in towns with a population of at least 2,500), increased population density in areas of industrial production, and expanded international trade, the potential for severe outbreaks was an ever-present threat which occupied most public health officials' time and energy.[223] Just as Maryland's Bureau of Industrial Statistics decided to "do no act which could jeopardize the friendly conditions which have been happily maintained between labor and capital," other agencies avoided "the appearance of collecting data just to prove the labor movement's claims."[224] This concern with collecting data without rocking the boat was fairly common in the U.S. Many agencies often were more concerned with establishing their authority through using "cold hard number [to] provide seemingly objective proof" than engaging in any intervention.[225]

The State Board of Health for Maryland also sought to establish its authority and control over medicine in Maryland, in a mirror image of what was happening at the federal level and within other states.[226] Once the medical profession was made professional, government physicians could engage in public hygiene reform and regulation thanks to their cultural authority.[227] In doing so, concerns over individual rights versus collective safety came to the fore. The State Board of Health for Maryland took the view consistent with its Gilded Age contemporaries, that individualism, as expressed through laissez-faire capitalist ideals, limited the actions of the government. As with other agencies and industrial hygienist, even into the

[223] Keiner, *The Oyster Question*, 2010, 19.
[224] *Third Biennial Report of the Bureau of Industrial Statistics and Information of Maryland, 1888-'89.* 8; Mohun, *Risk*, 119.
[225] Mohun, *Risk*, 119.
[226] Starr, *The Social Transformation of American Medicine*.
[227] Melosi, *The Sanitary City*, chaps. 5–9.

twentieth century, this economic and social dogma limited how public health officials could intervene. Many inspectors found that they lacked police powers, being only allowed onto factory floors with the owner's permission.

As with other government agencies, Maryland's Board of Health wrestled with what exactly its role was and how intrusive it could be in caring for the general welfare of the state's health. The Board, under longtime Secretary C.W. Chancellor, erred on the side of non-intervention that typified many—though not all—regulatory boards.[228] Direct intervention into private industry was still a new and contested idea in late nineteenth century America. When questioned about the poor sanitary conditions on skipjacks by *The Baltimore Sun*, Chancellor commented that the Board only had the power to make suggestions on sanitary matters.[229] Only the General Assembly could take action, and oyster interests dominated the legislature.[230] In Maryland, then, the standard operating procedure for the Board of Health and other regulatory agencies was limited intervention and an aversion to aggressive bureaucratic activism. Concerns about health focused on improving sanitation and public works. Intervention into private affairs or provisions for selected care was not up for consideration.

The constructed definitions of the Chesapeake Bay and the nature of dredging created the terrain of interaction that the state government had with the oyster industry. Determinations about dredgers were a result of their classification as industrial wage laborers and residents of urban areas, and were negatively juxtaposed with the independent, native, and rural boat captain and tonger. [231] This determination also meant that regulatory agencies treated the dredging fleet

[228] Mohun, *Risk*; Rosner and Markowitz, *Deadly Dust*; Derickson, *Black Lung*.
[229] Sun, "Sufferings of the Dredgers," 1885, 4.
[230] Keiner, *The Oyster Question*, 2010, 7; Smith, *Maryland Politics and Government*.
[231] Barnes, *The Making of a Social Disease Tuberculosis in Nineteenth-Century France*, 1995, 36.-- For many authors, disease is a phenomenon of society created by the elites and represents a bourgeois fear of lower-class urban invaders.

of the Chesapeake as an industrialized production unit, which encouraged non-intervention policies.

Compounded with this was the State Board of Health for Maryland's reflective ontology. Their focus on public welfare through water management and vital statistic collection necessitated that they ignore specific occupational groups. Their concern with rights infringement further reduced their schema of hygiene enforcement. The government of Maryland was disinclined to aggressively enforce health and safety standards on its oyster fleet, just as other state governments shied away from doing so to factories and mines. The Board of Health also was unable to provide direct medical relief because its role was to act "as an advisory board of the State in all hygienic and medical matters."[232] The Board operated within a strict interpretation of its purpose; this does not mean every government agency did so.

[232] Maryland State Board of Health, *First Biennial Report of the State Board of Health, of Maryland. January, 1876.*, 1876, 1.

## Chapter 3: The Marine Hospital Service on the Bay

This chapter will explore the importance played by a newly professionalized bureaucracy in developing interventionist federal policy in the late nineteenth century. The Marine Hospital Service (MHS) was created to be an intrusive agency. The MHS also considered its duty to intervene and provide medical care, and so advocated for expansions to fill the health gaps it perceived. Much as the Maryland Board of Health saw its role as providing for the public good and so limited its intervention into private affairs, the Marine Hospital Service saw its role as providing for the welfare of seamen and focused its efforts on expanding or improving the medical relief it provided.

The federal government was largely uninvolved in medical relief or safety regulation in the nineteenth century.[233] The few instances of federal action or intervention into health were limited in the scope of the people it served. Such examples of federally administered health care include the Bureau of Indian Affairs medical facilities on reservations in 1849 and the Freedman's Hospitals established after the Civil War.[234] One anomaly is the first federal agency to provide medical care, or in this case relief: the Marine Hospital Service. It was created by Congress in 1798 "to provide the temporary relief and maintenance of sick or disabled seamen."[235] The MHS saw the scope of its service expand, to the point where in 1889 it sent a decommissioned revenue cutter to a small, and for most people unknown, place called Solomons Island, Maryland to provide relief for oyster dredgers.[236]

---

[233] Mohun, *Risk*, chap. 5.
[234] Robert Straus, *Medical Care for Seamen; the Origin of Public Medical Service in the United States* (New Haven, CT: Yale University Press, 1950), chap. 9--Prior to 1849 the Army provided medical care to Native Americans.; Jim Downs, *Sick from Freedom : African-American Illness and Suffering during the Civil War and Reconstruction* (New York, NY: Oxford University Press, 2012), chap. 3.
[235] "An Act for the Relief of Sick and Disabled Seamen," § II, ch.77 (1798), sec. 3.
[236] Hamilton, "Letter to Dr. William Marsh," October 20, 1890.

That MHS provided health services to Maryland oystermen was the result of two factors. First, the MHS had already seen its scope of service expand several times throughout the past century, the step of providing care to oystermen was relatively small within the service's overall expansion—this was not the only facility created to treat watermen in the United States. Second, in the late nineteenth century, and especially the 1870s, the federal government was transitioning to a fully professional civil service, with civil service protections from partisan influences in place by 1877.[237] The early professionalization granted the MHS a degree of control over its affairs allowing it to make some—not all, but some—decisions quarantined from the interference of politicians. By the 1870s, the professionalized MHS was able to leverage its cultural authority to control its expansion to areas where medical care was needed, not where it was politically useful. While significant expansion—and associated expenditures—had to be initiated through acts of Congress, these more limited expansions needed no legislative oversight. The MHS's expansion into the Chesapeake Bay was not a large expansion of bureaucratic power. As a Third Class Relief Station, the Solomons Island Relief Station was the smallest station in the MHS, staffed by only a single MHS physician (an acting assistant surgeon), the establishment of such stations was a matter for professional bureaucrats, not politicians, to approve.[238] What makes the creation of this, and other Third Class Relief Stations, unique is that they were done without any political input. [239]

Most investigations of the expansion of federal government and policy after the Civil War emphasize the role of Congress and the president, that is to say they emphasize politicians.

---

[237] Richard Franklin Bensel, *Yankee Leviathan : The Origins of Central State Authority in America, 1859-1877* (Cambridge, UK: Cambridge University Press, 1990), 3.
[238] Laurence Frederick Schmeckebier, *The Public Health Service Its History, Activities and Organization* (Baltimore, MD: Johns Hopkins Press, 1923), chap. 3.
[239] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States, for the Fiscal Year 1890* (G.P.O., 1891), 76.

In such examinations it was Congress which authorized or the president that pushed for the federal government to create or expand agencies and policies. Theodor Sky's examination of the expansion of federal power in *To Provide for the General Welfare* highlights the importance of Congress and politics in pushing—and limiting—federal intrusion.[240] In *Safety First*, Mark Aldrich also places legislation on a historical pedestal, as does Richard Bensel in *Yankee Leviathan*.[241] For Aldrich, failures in the courts, and muckraking of workplace tragedies proved to be the impetuses for Congressional action. Bensel argues that the momentum for federal expansion came from the Civil War and Reconstruction. John Witt's *Accidental Republic* is a legal history that highlights the evolution of tort law in encouraging corporations to start offering workman's compensation.[242] Witt also examines the growth of co-operative social insurance programs as a way to fill the gap left by government non-intervention policies. Such a non-intervention policy was informed by Gilded Age ideals of free labor.[243] Other authors have focused on non-governmental forces. Christopher Sellers's *Hazards of the Job* looks at how labor movements and other social actors sought to enforce health regulations, though, his work is also more focused on the growth of environmental health. Indeed, few historians focus on the importance of the federal bureaucracy in pushing for expansions of federal policy.[244]

[240] Theodore Sky, *To Provide for the General Welfare : A History of the Federal Spending Power* (Newark, DE: University of Delaware Press, 2003).
[241] Mark. Aldrich, *Safety First : Technology, Labor, and Business in the Building of American Work Safety, 1870-1939* (Baltimore, MD: Johns Hopkins University Press, 1997); Richard Franklin Bensel, *Yankee Leviathan*.
[242] Witt, *The Accidental Republic* 12.—Starting in 1840s when started ruling in favor of the plaintiff in wrongful death lawsuits.
[243] Ibid., chap. 1.
[244] Bensel, *Yankee Leviathan*, 3–5.—Bensel notes that a protected and professional bureaucracy was necessary for this expansion of power: "specialized and politically insulated bureaucracies necessary to a strong central state." (5) However, his interpretation focuses on the lateness of American bureaucratic professionalism and highlights only its ability to carry out, not enact, policy.

*The Marine Hospital Service*

The MHS was not the first instance of government-funded medical care for sailors. After its victory over the Spanish Armada in 1588, the British government established a hospital in Greenwich to care for naval veterans. In 1696, the "Act for Encouragement and Increase of Seamen" expanded the clientele of the Greenwich Hospital to any member of the Royal Navy, or the merchant fleet, that "because of age, wounds, or other accidents became disabled for further sea duty."[245] In 1729, the colonial governments in America were directed to start collecting a tax on seamen to help fund the hospital, at 6 pennies a sailor.[246] The idea of government-administered medical relief is not as new or as surprising as many contemporary politicians claim. Much of the debate in Congress in 1798 centered on the location of the hospitals, with congressmen seeking to serve their regional interest, rather than on whether it was the government's job to provide this care.[247]

Political meddling had been particularly problematic in the MHS. The MHS was part of the Treasury Department, and for administrative convenience, each site was under the direction of the local Collector of Customs—who collected the maintenance tax. The Collector—a political appointee—had carte blanche over who was appointed to provide the medical care, leading the Service to become spoiled by the politics of corruption. Due to this mismanagement, the MHS was chronically underfunded; Congress had to establish a general fund after just four years of operation and after 1840 annual appropriations became the rule.[248] In 1884, a tonnage tax replaced the per-head tax, and in 1905 annual appropriations replaced the tonnage tax.[249]

[245] Straus, *Medical Care for Seamen; the Origin of Public Medical Service in the United States*, 18.
[246] Ibid., 20.
[247] Ibid., 26–28.
[248] Ibid., 35–43.
[249] Schmeckebier ., *The Public Health Service* 10–26; Straus, *Medical Care for Seamen*, 82–88.

It is important to highlight the 1884 tonnage tax. Up until 1884 a portion of the MHS funding came from a direct tax on sailors, fixed at forty cents per month at sea in 1870, this meant that sailors were paying directly into a medical relief fund.[250] After 1884, however, the monthly tax was eliminated, and the U.S. government began to directly fund the MHS, through a tonnage tax on all vessels entering the U.S:

> Sections forty-five hundred and eighty-five, forty-five hundred and eighty-six, and forty-five hundred and eighty-seven of the Revised Statutes, and all other acts and parts of acts providing for the assessment and collection of a hospital tax for seamen, are hereby repealed, and the expense of maintaining the Marine Hospital Service shall hereafter be borne by the United States out of the receipts for duties on tonnage provided for by this act; and so much thereof as may be necessary, is hereby appropriated for that purpose.[251]

Thus, by the time the MHS Relief Station in Solomons Island was established (and the same year a construction on a permanent MHS hospital in Baltimore City began) seamen were no longer paying directly into a relief fund to receive medical aid. That ship captains took the associated tax out of a seaman's pay—and therefore indirectly pay for medical relief—is not in dispute, but none-the-less the official source of funding for the MHS was the federal treasury. Importantly to the Chesapeake Bay is that skipjacks paid no tonnage tax. Oyster dredgers, then, were receiving tax-funded government-run medical relief!

By 1870, it was clear that the service needed serious reform. The Tammany-style wards throughout the hospitals were crippling the system, both financially and morally. In June 1870, Congress passed "An act to reorganize the Marine Hospital Service, and to provide for the relief of sick and disabled Seamen."[252] This change made the Service an independent agency within the Treasury Department, under the leadership of the Supervising Surgeon placing the MHS

[250] Straus, *Medical Care for Seamen; the Origin of Public Medical Service in the United States*, 82.
[251] An act to remove certain burdens on the American merchant marine and encourage the American foreign carrying trade and for other purposes. § I, ch. 121 (1884) sec. 15.
[252] Straus, *Medical Care for Seamen,* 60.

under the administration of a medical professional instead of a political appointee.[253] Each station mimicked the changes carried out at the top, with the Collector of Customs replaced by physicians as the stewards for the hospitals and relief stations (ranging in title from surgeon, assistant surgeon, to acting assistant surgeon depending on the station's class). The "Officer in Command" had to be certified by a board of surgeons, in addition to passing a civil service test before he could take his post.[254] The re-organization of the Service improved the quality of relief stations by making sure individuals in charge of the stations were "versed in sanitary science" and "familiar in the management of hospitals."[255]

Just like the Maryland Board of Health, the MHS sought to solidify its professionalism through self- regulation. In 1873—one year before the Maryland Board of Health was established—the Marine Hospital Service produced a series of regulations to clarify provisions from the 1870 law. These regulations included periodic inspections of all facilities and required surgeons to pass an examination for all appointments or promotions. The examinations "were so rigid that only 40 percent of candidates qualified during the first ten years."[256] So important were these regulations that the MHS repeatedly called for Congress to codify them to ensure that the Service would be free of future political interference:

[253] Office of the Surgeon General (OSG), "History of the Office of the Surgeon General," accessed April 7, 2016, http://www.surgeongeneral.gov/about/history/index.html.-- In 1889 with the creation of the Commissioned Corps within the Marine Hospital Service the Supervising Surgeon became the Surgeon General. However, the Commissioned Corps uses naval rankings, resulting in the Surgeon General of the Marine Hospital Service being a Vice-Admiral.; "An Act to Reorganize the Marine Hospital Service, and to Provide for the Relief of Sick and Disabled Seamen," § II, ch.169 (1870), sec. 6. Ibid.

[254] The general term used to refer to whoever was in charge of a station. "Chief Medical Office" was also a common title.

[255] *First Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Year 1872.* (Washington, DC: G.P.O., 1872), 22.

[256] Straus, *Medical Care for Seamen; the Origin of Public Medical Service in the United States*, 67.

> I have urged for the past six years that Congress make provisions for the appointment of medical officers . . . It is difficult to imagine that a man of experience would seriously urge the appointing power to cause the setting aside of regulations so obviously in the interest of humanity simply to obtain a place for a friend however needy, but experience has convinced me that nothing short of law will prevent these attempts with each recurring change of administration.[257]

This professionalization parallels the same trend occurring in American medicine. In 1871 Harvard completely reorganized its medical school; laboratory work in "physiology, chemistry, and pathological anatomy" replaced lectures.[258] In most states, medical licensing did not become the norm until the 1870s and 1880s; in Maryland, the Board of Health did not have the power to verify medical credentials until 1888.[259] This reform of the MHS represents a shift in the administration of government agencies. In line with the wider medical community, the MHS reorganized itself under budding ideals of an unbiased meritocracy and did so before most other organizations.[260] By the late nineteenth century, municipal and state government health authorities moved from operating under political patronage to professional practicality. In line with this bureaucratization, the MHS became more regimented and compartmentalized as part of a general trend toward professionalism in American medicine.[261] This professionalization granted the MHS a new authority that allowed the Service to chart its own expansion.

Where state-level boards of health in the late nineteenth century focused on their development, the MHS concentrated on improving and expanding its service. Over the decades, the MHS saw the purview of its mission expand. Changes were slow before the 1870

---

[257] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1895.* (Washington, DC: G.P.O., 1895), 11.
[258] Paul Starr, *The Social Transformation of American Medicine* (New York, NY: Basic Books, 1982), 114.
[259] "The Early Development of Medical Licensing Laws in the United States, 1875-1900.," 113.
[260] Straus, *Medical Care for Seamen; the Origin of Public Medical Service in the United States*, 60–67.; Bess Furman, *A Profile of the United States Public Health Service, 1798-1948,* (Bethesda, MD: National Institutes of Health, 1973), chaps. 6–9.
[261] Paul Starr, *The Social Transformation of American Medicine*.—One will recall from Chapter II that Maryland did not have a professional health board until 1874, the first such board was formed in Massachusetts in 1869. (Mohun, *Risk*, 118).

reorganization. In 1802 non-Americans serving on American vessels were allowed to seek treatment at the MHS hospitals.[262] By the mid-nineteenth century, the Service expanded its reach by building stations in internal ports, starting in 1837 when Congress authorized the establishment of seven hospitals (three on the Mississippi River, three on the Ohio, and one on Lake Erie).[263] The MHS further expanded after its reorganization in 1870, and it began to establish quarantine hospitals and conduct health inspections of immigrants.[264] In 1879, it provided free physicals for all seamen.[265] The MHS offered relief to watermen, and that action was confirmed in 1886 when the Service asked the Solicitor for the Treasury Department weighed in on the issue because "applications for relief began to be received from fishermen, claiming that as their vessels paid tonnage duty they became contributors" and were entitled to relief.[266] Soon the service expanded beyond the *marine*. For example, starting in 1914 it began to conduct rural sanitation work, mostly focusing on education.[267] The MHS became so diverse in its scope that Surgeon General John B. Hamilton, in his introduction to the Service's 1889 annual report, called for the name of the Marine Hospital Service to be changed to reflect its growing public health role.[268] The Service changed its name to the Public Health and Marine Hospital Service in 1902.[269]

The episode in Southern Maryland, then, occurred within a wider context of MHS expansion. The codification of medical professionalism granted the service the cultural authority

---

[262] Straus, *Medical Care for Seamen.* 35.
[263] Ibid. 42–50.
[264] Ibid., 87–88; Schmeckebier, *The Public Health Service Its History, Activities and Organization*, 32. In 1920, for example, the Baltimore station examined 29,631 persons.
[265] Straus, *Medical Care for Seamen*, 79–81.
[266] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1886.* (Washington, DC: G.P.O.., 1886), 9.
[267] Schmeckebier, *The Public Health Service Its History, Activities and Organization*, 1923, 122.
[268] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States* (Washington, DC: G.P.O., 1889).
[269] Schmeckebier. *The Public Health Service Its History, Activities and Organization*, 1. In 1912 the name was changed again to the Public Health Service.

to begin to advocate for expanded powers and a more interventionist role.[270] The last quarter of the nineteenth century saw the most robust expansion of the Service's powers. With the addition of quarantine and immigration inspection to its mission, the MHS migrated away from serving only merchant marine seamen. In 1871, at the time of the reorganization of the Service, the MHS had 71 facilities; in 1880 this had increased threefold to 210.[271]

*Views of Seamen*

Seamen have unique characteristics that caused the federal government to provide for their medical care. Initially, the care given by MHS centered on merchant marines returning from foreign ports.[272] This is a result of shipping's interconnectivity to other economic pursuits. More so than other industries, international trade is closely linked to governmental policy and national independence. A strong merchant marine fleet maintains a nation's economic independence, and able-bodied seamen mean that there is less need to rely on foreign merchants—as such a situation could leave the American economy to the whims of a potentially hostile government. Robert Straus states in *Medical Care for Seamen:* "[I]n reality, the shipping industry is an instrument of state policy." [273] The War of 1812, after all, was largely caused by the impressment of American sailors.[274] Providing for the health of seamen was considered a national concern because the seaman's job was accepted as necessary for the public good.[275] Society needs commerce to function; economies cannot grow without access to foreign goods to

[270] Starr, *The Social Transformation of American Medicine*, 7.
[271] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1895.*, 187.—In 1895 the service treated 52,000 seamen.
[272] An Act to reorganize the marine hospital service, and to provide for the relief of sick and disabled seamen.—"...the master or owner of every ship or vessel of the United States, arriving from *any foreign port* into any port of the United States..." (605)
[273] Straus, *Medical Care for Seamen; the Origin of Public Medical Service in the United States*, 2.
[274] Ibid., 1-16.
[275] Ibid., 1–9, 14–18.

stimulate growth and return profits. The merchant marine was, then, an essential job and a brutal one, but the hazards were considered natural to the job.[276] It served the nation's interest to have a strong cadre of merchant seamen. By doing so, a nation could ensure a degree of economic self-sufficiency and so maintain its status as a politically independent nation on the world stage.

By coincidence, this national independence was ensured by a profession that prized above all else its independence. As discussed in *Liberty on the Water Front* the seaman profession attracted those that held "disdain for the daily routine of land-based labor."[277] As shown in Chapter I, many men turned to the water in the nineteenth century not for the money—of which there was little to be made—but for the freedom the water offered.[278] This freedom also disassociated seamen from any political geography; the permanent migration of seamen meant they lacked any of the anchors—family and property—of land-based living.

The geographic and cultural ties that defined most individuals in society, and which were especially important to people in need of social assistance, proved problematic for seamen. Seamen were, in fact, essentially homeless and considered by many to be national dependents.[279] A sailor's lack of social ties and a dispersed geographic spread led to two phenomena. First, it caused sailors to gain reputations as reckless spendthrifts, men who could not integrate into society and instead crowded its edge. Quite literally they were often limited to a municipality's riparian zone, as many cities introduced ordinances to restrict the movement of sailors to the docks. [280] Because seamen had no geographic ties, they were unable to claim the benefits of almshouses or locally run hospitals, as these institutions limited their demographic of service to

[276] Ibid., 146.
[277] Gilje, *Liberty on the Waterfront*, 13.
[278] Botwick and McClane, "Landscapes of Resistance," 95–102.
[279] Straus, *Medical Care for Seamen; the Origin of Public Medical Service in the United States*, 14.
[280] Ibid., 1–17; Paul A. Gilje, *Liberty on the Waterfront : American Maritime Culture in the Age of Revolution* (Philadelphia, PA: University of Pennsylvania Press, 2004), 3–33.—A *riparian zone* is where a body of water meets land.

the citizenry of their locality. Compounding this, sailors were not renowned for their financial planning—their reputation as drunken spendthrifts was not unearned—and would rarely have the means to purchase medical care for themselves.[281] The otherness of seamen excluded them from access to health care, despite being in a trade with a high chance of injury and an even greater chance of disease. Maryland oystermen had this reputation as rapscallions as well; John Wennersten describes how "those who visited Crisfield [a major oystering center, and the second largest city in Maryland] in the 1870s found a raw, riotous community with saloons and brothels filled with lusty watermen."[282]

Secondly, ill seamen also posed a threat to the health and welfare of the public. Because seamen traveled to foreign ports, they were perceived to be walking creatures of contagion, importing exotic illnesses from the Torrid Zone.[283] Ports were shut down and cities ruled by fear with news of cholera outbreaks. During the outbreaks in Europe of 1832, 1849, and 1866, New York City became restless and fearful that the disease would sail across the Atlantic and attack the American citizenry.[284] Dangers of this kind, foreign threats introduced through benign means, were quick to stir up public fears and force government intervention. Providing sailors with a source of medical care served as a way to mitigate the threat these potential carriers of foreign plagues posed to society.

In the nineteenth century, there were two reasons why the government provided medical care to a specific group. The group was owed medical care as a reward for services rendered, such as the case with veterans, or the group was deemed incapable of providing for themselves,

[281] Straus, *Medical Care for Seamen*.
[282] Wennersten, John R. *The Oyster Wars of Chesapeake Bay*. (Centreville, MD: Tidewater Publishers, 1981), 18.
[283] The Torrid Zone comprises the tropics, and in the nineteenth century of medicine was also considered by many to be a source of ill health for people of European descent.
[284] Charles E Rosenberg, *The Cholera Years; the United States in 1832, 1849, and 1866.* (Chicago, IL: University of Chicago Press, 1962).

such as with Native Americans and freed slaves. Seamen straddled both categories, through their duty in maintaining the economy sovereignty of the nation and being unable to care for themselves as a result of their nomadic state.

The MHS view of seamen was far more charitable than most other organizations. Both Walter Wyman and William Marsh were sympathetic to the plight faced by Maryland's oyster dredgers. For example, Marsh laments in his 1893 report that many captains refused to grant oystermen access to his station.[285] Marsh even admits he was surprised there were not more cases of pneumonia "among this class of poorly fed, thinly clad [men]."[286] Where other people focused on the drinking, illicit sex, and fighting of seamen, the MHS was concerned only with their medical well-being.

The MHS viewed its mission as not only to provide medical care for seamen as directed by Congress, but also to advocate for their protection in general. The First Annual Report of the MHS, 1872, recommended that the scope of the MHS medical demographic be expanded to include "revenue cutters, coast survey vessels, vessels of the Engineering Corp of the Army, and the Light-House Board."[287] In its 1875 report, the Service applauded Congress for acquiescing to the MHS's request to expand the definition of seamen that qualified for MHS assistance: "As far as the service is concerned [author's emphasis], any person employed on board in the care, preservation, or navigation of any vessel, or of those engaged in such care, preservation, or navigation."[288] This also highlights the flexibility the MHS took to interpreting Congressional directives to ensure that the widest range of individuals would qualify for MHS coverage and

[285] Wyman, "Hardships of the Coasting Trade, and Particularly of the Chesapeake Bay Oystermen," 277; W.H. Marsh, "The Relief Station at Solomons, M.D.," 71.
[286] W.H. Marsh, "The Relief Station at Solomons, M.D.," 72.
[287] *First Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Year 1872.*, 25.
[288] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1875*. (Washington, DC: G.P.O., 1875), 5.

shows that the MHS was actively seeking ways to provide more protection to those engaged in maritime employment.[289] The Service did not verify that it could provide care to watermen until 1886, despite having already done so for years.

The service also expanded the care it could provide by requesting the construction of new hospitals. In 1872, for example, the Service requested that Congress authorize the construction of hospitals at "New York, Baltimore, New Orleans, Cincinnati, Cairo, Vicksburg, Norfolk, Galveston, Savannah, and Port Townsend."[290] After a decade Congress finally appropriated funds for the establishment of a hospital in Baltimore; though the appropriation was made in 1882, construction was delayed until 1884 as the Maryland General Assembly had to approve the transfer of land from state to federal control.[291] Already, the MHS was making use of its professionalized bureaucratic independence to expand the scope of its mission.

This was expedited in part by how the MHS viewed seamen. Contrary to the Maryland Board of Health and other state agencies, the MHS focused less on their rough nature and instead focused the exploitative aspects of their employment.[292] In 1884 Walter Wyman (then Surgeon for the Baltimore Hospital) commented on the abuses and poor working conditions of dredgers in Maryland (as described in Chapter I):

---

[289] In so much, as that the MHS interpretation of the law was broad enough to incorporate all individuals employed on a vessel, including "cooks, porters, or waiters." (Ibid.)

[290] *"Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States, for the Fiscal Year 1881,*(G.P.O., 1882), 14.

[291] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1890.* (Washington, DC: G.P.O., 1890), 23.

[292] *Second Biennial Report of the State Board of Health of Maryland. January, 1878.* 33–36.; Gilje, *Liberty on the Waterfront,* 13.; This is not to suggest that they did not understand some of the rougher aspects of the seaman's life. Full aware of their life style it is of little surprise that in the *First Annual Report* the Service had a paper entitled "Stricture of the Urethra." United States Marine Hospital Service, *First Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Year 1872.*, 123.

> A large number are capable of the greatest brutality, and I have heard it freely asserted by men who should know, that many a dredger has been knocked overboard and drowned by an angry captain, because dissatisfied with his work, or to avoid the penalties to which the kidnapped man might subject him on return to port, or to stop a troublesome demand for wages.[293]

The Doctrine of Assumed Risk—the idea that workers accepted all health risk upon accepting employment—was not to be used by the Service as justification for turning a blind eye. While praising the MHS expansion of power under Congress's reorganization of the Service, the First Annual Report notes that "in the absence of legal supervision, abuses have grown so flagrant and demoralizing."[294] The issue of "advanced wages" was a continued and notably non-medical concern of the MHS. Similar to share-cropping in the Reconstruction South, advanced wages was a practice where a boarding house overcharged seamen for room, board, and, of course, rum while they waited for employment and then sent them "penniless to the sea."[295] The 1881 Report refers to this practice as "blood money," claiming that "crews are bought and sold like cattle."[296] In addition to the abuses of wage, the Service also worried that the employment of seamen who had "never been physically fit for the duties" persisted.[297] Though the MHS was concerned about the nature of seamen's employment, it was only authorized to provide medical care to seamen, not regulate the nature of their employment. This exhibits that the MHS was engaging in more Progressive thinking about the causes of the health issues facing seamen in the Gilded Age.

---

[293] Wyman, "Hardships of the Coasting Trade, and Particularly of the Chesapeake Bay Oystermen," 277.
[294] *First Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Year 1872.*, 132.; An Act to reorganize the marine hospital service, and to provide for the relief of sick and disabled seamen.
[295] *First Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Year 1872.*, 133.
[296] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States, for the Fiscal Year 1881*, 17.
[297] *First Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Year 1872.*, 133 & 17.

Acutely aware that the MHS served as only a treatment, but not a cure for many of the health problems facing seamen, it lamented that there was little in the way of regulating for the safety of seamen. "Thousands of dollars are properly spent through the lifesaving service, in saving the lives of persons . . . but, we have as yet no public provisions looking to the prevention of disaster."[298] That is to say that the MHS could do little to control the nature of seamen's employment, or their actions on the land—much to the chagrin of many special reports examining treatments for venereal disease. The MHS saw the scope of its potential action limited to the grounds of its hospitals and relief stations. Despite advocating for expanded powers to provide for the care of seamen, the individuals it saw were largely at a disadvantage and in danger of abuse. The service could only intrude so far without political approval.

*The Marine Hospital Service on the Bay*

How, then, did this care get extended to the oyster dredgers of the Chesapeake? In Maryland, there were three, and occasionally four, MHS facilities, the largest being the hospital in Baltimore City.[299] Before 1887, the Baltimore location operated out of St. Joseph's Hospital in the northern part of the city, but in 1882 Congress appropriated $100,000 for the construction of an MHS hospital in the city.[300] The Baltimore Hospital itself was constructed primarily to serve as a quarantine station, but also filled the role of a relief station by providing out-patient services. In 1889, for example, the Baltimore hospital treated 1,800 patients.[301] However, what is of

[298] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States, for the Fiscal Year 1881*, 15.
[299] There were locations at Crisfield, Cambridge, and Annapolis in addition to the Solomons Island and Baltimore City location.
[300] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1883.* (Washington, DC: G.P.O., 1883), 28; *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1890.*, 34.
[301] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1889.* (Washington, DC: G.P.O., 1889), 414.

interest to this thesis is the creation of the Marine Hospital Service's Third Class Relief Station (no.332) at Solomons Island. This station's creation was not, as was the case with the Baltimore hospital's construction, to fulfill multiple roles (in the case of Baltimore this was for inspection, quarantine services, and relief). The station at Solomons—initially referred to as Patuxent Harbor—was put in place solely to serve oystermen, and specifically the industrialized dredger, of the Chesapeake.

A few factors played a role in bringing this medical service to the Bay. Dr. Walter Wyman, who as the Supervising Surgeon in Baltimore, became well acquainted with the plight faced by oyster dredgers.[302] He reported on their condition in a presentation to the American Public Health Association in 1884.[303] However, Wyman saw this as part of a larger problem. The conditions on skipjacks presented a great chance for injury and disease. He noted a discrepancy, while every deep-sea vessel was required to provide protective clothing to its crew, "no law compels any oyster captain to look thus to his men."[304] He highlighted the harsh conditions of the Chesapeake and the danger it posed to the oysterman's health. "The men's labor is all upon the open deck, where their clothes may be kept wet and frozen by the spray . . . it would be strange if pneumonia and rheumatism were not frequent among them."[305] He pointed to the past

[302] Bess Furman, *A Profile of the United States Public Health Service, 1798-1948,* (Bethesda, MD: National Institutes of Health, 1973). Wyman was an activist bureaucrat. He was placed was in charge of overhauling the MHS procedures in 1890 and produced a seven-page document, in minuscule type, with updated rules and new regulations. Before that, he traveled to Europe to study the disposition of their hospitals; he also headed the precursor to the National Institutes of Health (the MHS Hygienic Laboratory). Wyman later went on to become the Surgeon General of the Marine Hospital Service (1891-1911). The Baltimore Hospital functioned as a Marine Hospital of the Second Class, and Wyman, as its Surgeon, was also in charge of all third class stations in Maryland, Delaware, and tidewater Virginia.

[304] Wyman, "Hardships of the Coasting Trade, and Particularly of the Chesapeake Bay Oystermen," 277.
[305] Ibid.

two years (1882 and 1883) when fifty oystermen sought treatment at the Baltimore hospital for frostbite and over thirty for the dreaded oyster hand.[306]

He recounted the case of James Belfield, who in November of 1882 was struck in the stomach by his windlass and lost the use of his legs.[307] Belfield might have, perhaps, been spared permanent disability if, Wyman sardonically noted, he had received prompt treatment, but "it was deemed more important to get a full load of oysters."[308]

While Wyman acknowledged that the reality of the oyster dredger's life included many health threats, he suggested that there should be some government intervention to mitigate the risks. The injuries faced by dredgers were a result of the technology used: the dredge and windlasses. The dredge and windlass made oystering far more deadly than tonging, "It is this deadly instrument that I would call more earnest attention to than all the other combined hardships."[309] He was, however, cognizant of the reality of the situation facing dredgers. Their injuries are not the results of an "exceptional disaster," but "a day pointed to by the hand of probability."[310] Wyman was well aware of the many limits placed on workplace safety in the Gilded Age, and was perhaps thinking of how the MHS could intervene to assist oyster dredger.[311] "Surely the state of Maryland might demand . . . that no sick man . . . shall be allowed to lie in the miserable forepeak, but shall be promptly carried to the nearest port, where relief shall be obtained."[312] To be sure, 1880s America was not a bastion of occupational health protections. The same year as Wyman's report Congress considered creating a bureau to track,

[306] Ibid., 277–78. Oyster Hand occurred when a cut received from an oyster shell became infected and was often exacerbated by the extreme temperatures of the Bay. The oyster season ran through winter.
[307] Ibid., 279–280.
[308] Ibid., 279.
[309] Ibid., 278.
[310] Ibid., 280.
[311] As discussed in the previous sections, Wyman was not the first, or only, MHS official to comment on how the condition of seamen's employment contributed to their health problems.
[312] Wyman, "Hardships of the Coasting Trade, and Particularly of the Chesapeake Bay Oystermen," 281.

not prevent and most definitely not treat, labor injuries.[313] For Wyman and the MHS, the Gilded Age ideas of the fellow servant rule, contributory negligence, and assumed risk would not be used to justify failing to provide for the care of oystermen.

In an 1889 letter, Wyman announced that he found a "temporary shelter hospital during the ensuing three months for the relief of the sick and disabled [oystermen]."[314] One such location could be "the mouth of the Patuxent River."[315] The revenue cutter *E.A. Stevens* had arrived in Baltimore three months earlier, along with four other vessels, set to be decommissioned and disassembled.[316] The ship was transferred—by order of Treasury Secretary Windom—to the Marine Hospital Service and retrofitted to serve as a floating hospital.[317]

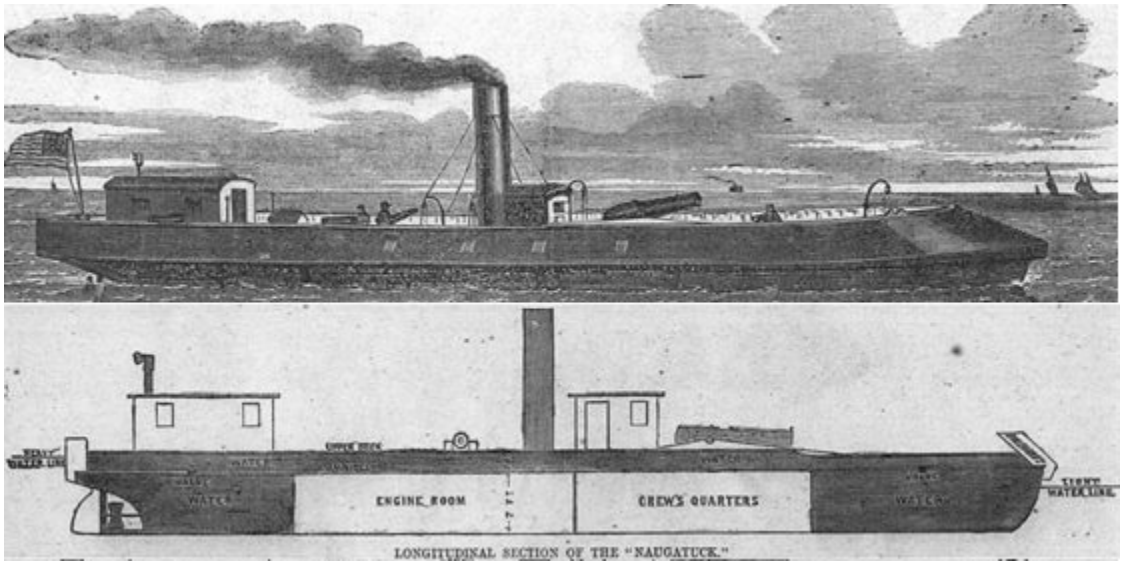



Figure 11 & 12: *The Stevens Iron Steam Gun-Boat Naugatuck (previously named Gunboat Cutter E.A. Stevens), now at Fortress Monroe.* Illustration from Harper's Weekly, 1862. Naval History & Heritage Command. | *Profile view of the Civil War gunboat Cutter E.A. Stevens, showing her internal space arrangement*. Drawing. Naval History & Heritage Command. [318]

[313] Mohun, *Risk*, 116–20.
[314] Letter to Medical Officer in Command, Baltimore, from Surgeon Walter Wyman. December 30, 1889. Vol. 74, RG 90. NARA, College Park, MD.
[315] Ibid.
[316] "The Stevens Battery to End a Career," *The Sun (1837-1990)*, August 12, 1889.
[317] "From Washington: The New Postmaster of Baltimore Confirmed Without Delay No Objection to Mr. Johnson Reported from Committee and Confirmed the Same Day--Preparing to Occupy the New Postoffice--A Floating Hospital for Dredgers," *The Sun (1837-1990)*, January 17, 1890.
[318] William H. Thiesen .**"**The Long Blue Line: Gunboat Cutter E.A. Stevens—the Revenue Cutter Service's Experiment in Modern Naval Technology (Part 1 of 2)," *Compass*, accessed March 3, 2017,

This was to be a grand experiment: to see if a floating hospital, under the medical care of Dr. James Stoner, could meet the needs of the Chesapeake's dredgers. By the end of January, the *Stevens* arrived at Drum Point in the Patuxent River, that location being "the chosen haven for oyster vessels in bad weather" making it the "most advantageous for the boat to be stationed for rendering medical aid."[319] That season the hospital had 176 men apply for treatment, of which 18 had to stay for inpatient care.[320] In fact, on the day the *Stevens* arrived in the Patuxent Harbor "six or eight unfortunate dredgers presented themselves for treatment."[321] The *Stevens* was in an ideal spot to provide medical relief to dredgers because over a three month period—half an oyster season—176 men received treatment at the floating hospital.[322] James Stoner concluded his report by stating that there are more injured men either still able to work, or are being held captive aboard their ships "in hopeful expectation of an early recovery."[323]

Wyman's belief that there was a medical gap in the Chesapeake proved to be true. The *Stevens* provided medical service to dredgers who otherwise would not have been able to receive treatment—the closest station to the Patuxent was in Crisfield, forty miles away on the other side of the Chesapeake. Moreover, it was decided that a permanent station was needed to provide relief for oyster dredgers in the southern Chesapeake Bay.

On October 20, 1890, Dr. William M. Marsh was made Acting Assistant Surgeon for the Solomons Island Relief Station of the Third Class (no. 332). One advantage of this location (fig.

---

http://coastguard.dodlive.mil/2017/01/the-long-blue-line-gunboat-cutter-e-a-stevens-the-revenue-cutter-services-experiment-in-modern-naval-technology-part-1-of-2/.

[319] "Dredgers' Floating Hospital: The Revenue Marine Steamer E A Stevens in a New Role--Port Paragraphs," *The Sun (1837-1990)*, January 6, 1890.

[320] "Port Paragraphs: The Hospital Steamer--Icebergs at Sea--The Disabled Metapedia," *The Sun (1837-1990)*, April 15, 1890.

[321] "[No Title]," *The Sun*, 1876.

[322] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1890.*, 320–23.—The *Stevens* treated 7.8% of the seamen seen by relief stations in the Middle Atlantic District for that year. It is worth to keep in mind that it only operated for a three month period.

[323] "Medical Aid for Dredgers: Oyster Captains Charged with Avoiding the Floating Hospital," *The Sun (1837-1990)*, February 18, 1890.

13 & 14) was that the steamer *St. Mary's* made its way from Solomons Island to Baltimore every Monday and Thursday, and could transport any oysterman requiring more advanced treatment to the Baltimore Hospital with relative ease.[324] When interviewed for an 1891 article for the *Calvert Gazette,* Dr. Marsh expressed his confidence that the station would become widely used once its existence became well known, and felt that its contract would be renewed for the following year. The article closed by noting that "the Surgeon General is understood to be in favor of making it a permanent station."[325]

In the 1890-91 season, the Solomons Station treated 219 oystermen.[326] The following season 538 men applied for treatment at Solomons with 32 admitted for overnight care (two of whom died). [327] In 1893, 417 men applied for treatment at the Solomon's Stations. To place this number in perspective, the total number of seamen treated in the Southern Atlantic District (which encompassed Maryland, Virginia, North and South Carolina, and Georgia) for that year was 8,863, and within Maryland the MHS treated 2,568 people. In 1893, the Solomons Island Station treated almost a fifth of all the applications to the MHS for Maryland.[328] It is evident that the Solomons Relief Station served as a critical medical facility for the Chesapeake oystermen.[329]

In his report on the station's activities, Dr. Marsh opens by stating: "I can testify to the fact that the life of the oyster-dredger as described by Surgeon Wyman was under, rather than

---

[324] "Hospital for Oystermen," *Calvert Gazette*, November 1, 1890.
[325] "Closed for the Season," *Calvert Gazette,* April 11, 1891.
[326] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1891*. 1891. 339 and 272.
[327] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1892*. 287-300. There were a total of 53, 610 person treated by the Service for that year. See the Appendix for a complete list of the number of seamen treated at Solomons.
[328] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1883.*, 180–81 & 196.—In Maryland the Baltimore Hospital saw 1,999 patients and there were 152 seamen treated in Cambridge. For a complete list of the number of seamen treated at the Solomons Station see the Appendix.
[329] For a complete list of the number of people treated at the Solomons Island Relief Station see the Appendix.

over, drawn."[330] He noted that "a better location could not be found" and that "on Sunday it is no unusual sight to see 300 or 400 vessels lying in anchor in the harbor."[331] Solomons Island not only was close to productive oyster grounds, but it also provided shelter in inclement weather and a location where dredgers could replenish their store and seek repairs, "there being several stores and two artesian wells from which they can be supplied, besides three shipyards."[332]Additionally, as Marsh noted, Marine Hospital Relief Station no. 332 was the only medical facility within miles of Solomons; in fact, when performing serious operations, he often had conscripted the rest of the crew to act as assistants.[333] The most common complaint brought to the hospital was bronchitis, with 191 cases in 1893.[334] The most applicants he received in a single day was 21, on a Sunday. (Sundays were "a red-letter day for sick calls."[335]) For those oystermen submitting to the station for the treatment of an injury the two most common were injuries caused by the windlass and oyster hand.[336]

[330] W.H. Marsh, "The Relief Station at Solomons, M.D.," 71.
[331] Marsh, W.H. "The Relief Station at Solomons, MD." In *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States Fiscal Year 1893*. 71-73.—Often when seamen were brought to the station to seek relief, they were done so under the watchful eye of the captain or mate "for fear he [the hand] will take this opportunity to dessert."(71)
[332] Ibid.
[333] ibid. 72.
[334] W.H. Marsh, "The Relief Station at Solomons, M.D.," 73.
[335] Ibid. 72.
[336] For a more detailed account of the dangers of the hand crank look to the cases of James Belfield, who was paralyzed when a wayward crank struck him in the abdomen and knocked him across the boat fracturing his spine. In: Wyman, "Hardships of the Coasting Trade, and Particularly of the Chesapeake Bay Oystermen," 279–280.

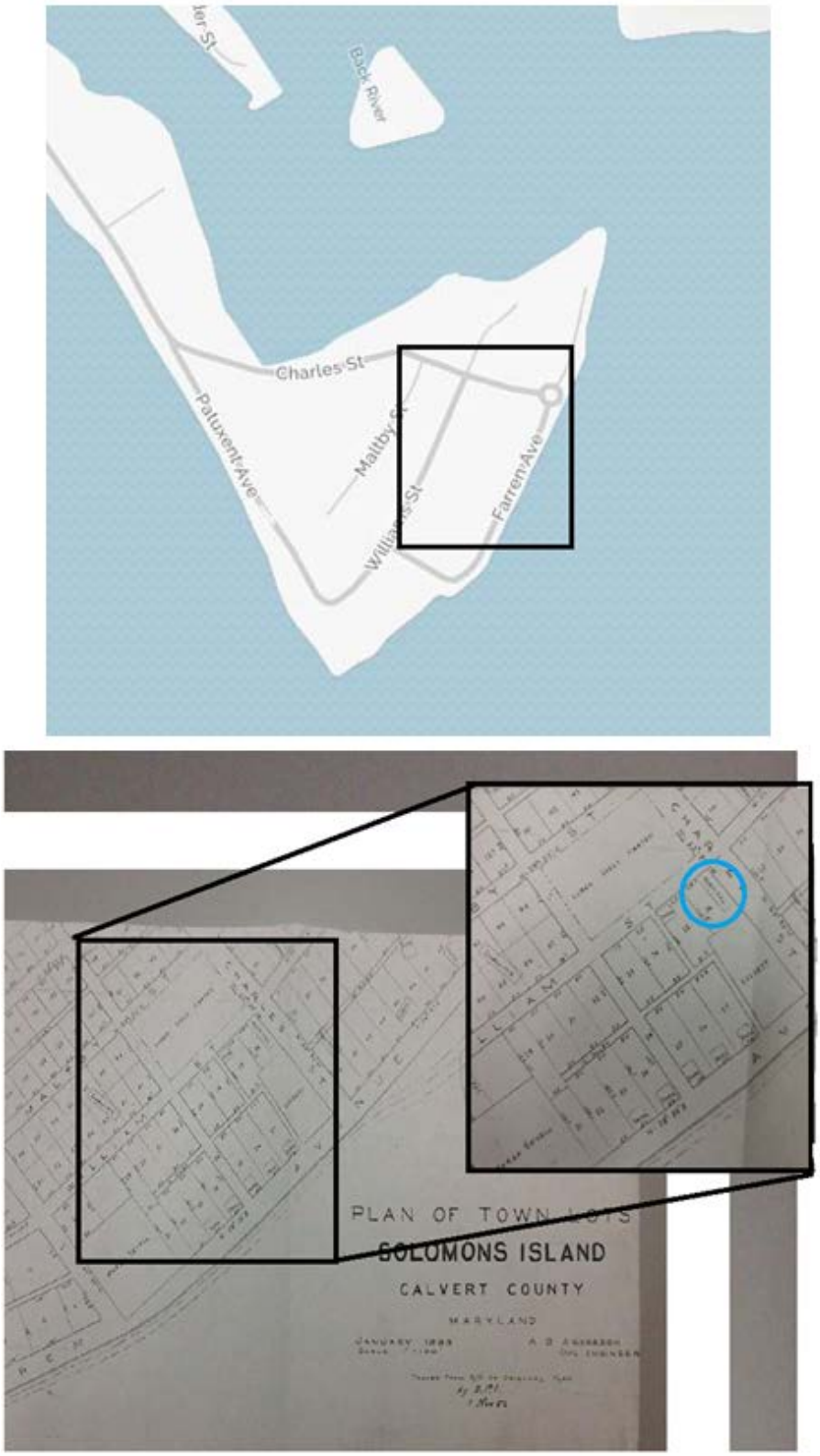



Figure 13 & 14: Current Map of Solomons Island. Map from MapQuest, 2017. | *Plan of Town Lots, Solomons Island, Calvert County, Maryland.*. 1893. Courtesy of the Paul L. Berry Reference Library at the Calvert Marine Museum. (The MHS Relief Station is circled in blue.)

This is not to suggest that the local population welcomed the relief station's presence. In 1904 the Official Board of Solomons (which was actually the local church council) requested that the relief station be moved. Undoubtedly, the negative stereotypes of oystermen was on the board's mind when it noted that the "location of the Marine Hospital" was "detrimental to our church property" and requested a new site be found.[337] The MHS response was a definitive *no*.[338] In their minds, the relief the station provided was clearly more important than the concerns of the local populace.

The location of the Solomons Island Relief Station was so ideal that surveys were conducted on nearby Hog Island on the St. Mary's County side of the Patuxent River for a possible MHS Quarantine Station. Ship owners considered its location more desirable than one at the mouth of the Chesapeake as that was "too far from the city [Baltimore]."[339] Initial inspections of the island by the MHS deemed it an excellent location for such a station.[340] Unfortunately, the station was never constructed, for the owner of part of Hog Island refused to sell his property to the federal government.[341] This failed episode shows that he MHS had an interest in expanding its presence in the southern Chesapeake, and had to advocate for such an expansion. The Treasury Department had already allocated $41,000 for the construction of the Hog Island station before the sale of the land was confirmed![342]

---

[337] "Minutes of the Official Board of Solomons," May 16, 1904, Courtesy of the Paul L. Berry Reference Library at the Calvert Marine Museum.—It should be noted that Solomons Island was not an incorporated area and its Official Board had no legal power,

[338] "Minutes of the Official Board of Solomons," May 30, 1904, Paul L. Berry Reference Library, Calvert Marine Museum, Maryland.

[339] "For a Quarantine Station," *Calvert Gazette*, March 18, 1893.—In fact, the Treasury had already allocated 41,000 dollars for its construction.

[340] "Inspecting Hog Island," *Calvert Gazette*, May 20, 1893.

[341] "Hog Island Abandoned," *Calvert Gazette*, November 17, 1894.

[342] "Inspecting Hog Island."

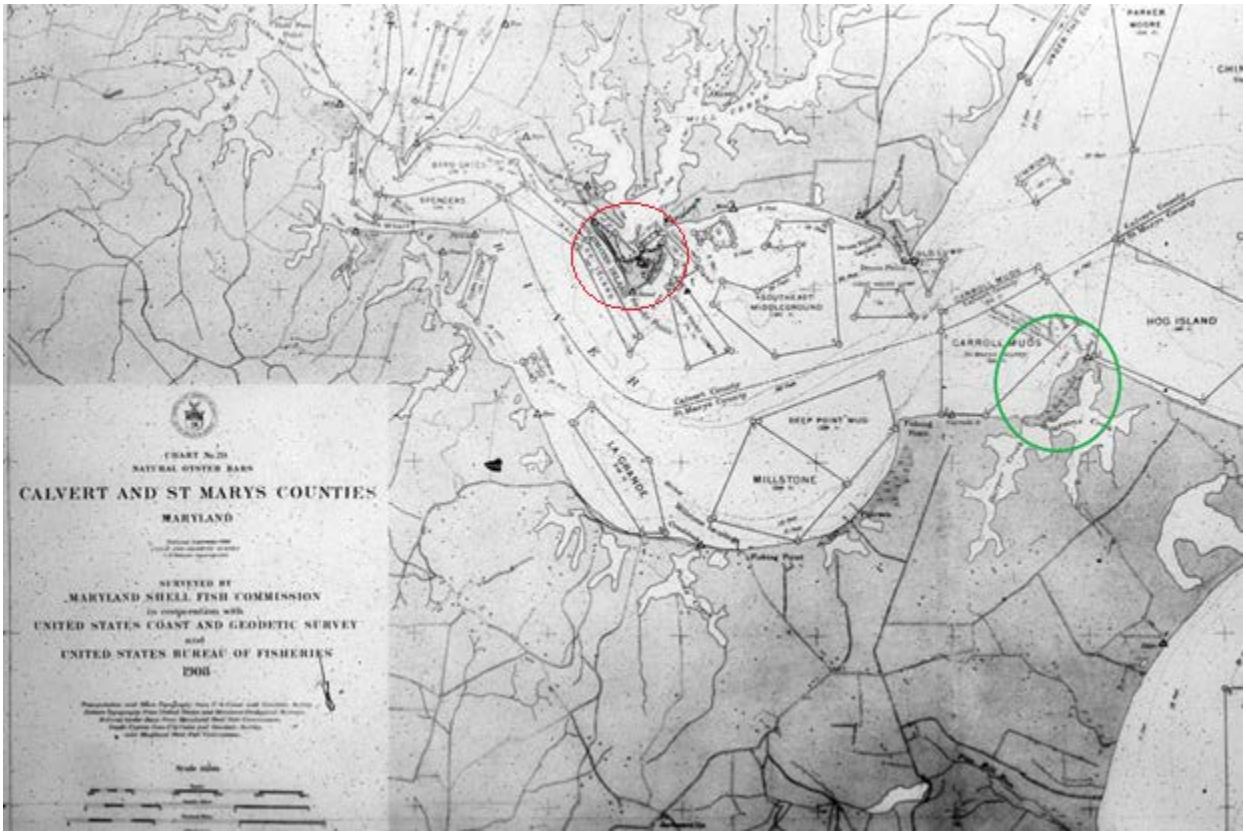



Figure 15: A map of the mouth of the Patuxent River, with Hog Island circled in green, and Solomons Island circled in red. Image from: *Charts of Maryland Oyster Survey, 1906-1912.* Maryland Shellfish Commission, in cooperation with the United States Geodetic Survey, and the United States Bureau of Fisheries. 1908.

*Conclusion*

That the Solomons Island Relief Station was established is indicative of the forward momentum of the MHS, correlated to its new professional and bureaucratic organization. By placing physicians in command, the service was able to respond to health issues in a moderately preemptive manner. It is evident from reading the reports of Wyman and Marsh that these new professional leaders engaged in the Progressive tradition of applying their scientific knowledge to solve problems of public health. Through the floating hospital experiment with the *E. A. Stevens,* they used quantitative evidence to justify the establishment of a permanent station on

the Patuxent River. The Service had responded to a health crisis that was developing among the Maryland oyster dredgers. [343]

Also, of importance is to note how the Solomons Island Station was funded. After 1884 the MHS relief fund was abolished, and the MHS was funded by the federal government through the collection of a tonnage tax.[344] Considering how these situations normally existed, it is highly likely that ship captains made up for this tax by taking it out of their seamen's' pay. However, this tax was only levied on ships entering the U.S., not on those on its insular waters. Thus, for the Maryland oyster dredger the federal government, through the Marine Hospital Service, was providing medical relief through what amounted to a publicly funded medical apparatus. In the case of the MHS establishing hospitals and stations on the Bay, and across the whole nation, we have a clear instance of a tax-supported medical service providing medical relief to a demographic that lacked access to care. This provision of care is a continuation of viewing the seamen, of which the dredger was now included, as a national dependent.[345] In this case, the word *national* deserves particular attention because it is the federal, not state, government that is providing the care.

As has been shown, the MHS had several factors that enabled it to step in and fill the health dangers being faced by oystermen in the southern Chesapeake Bay. The Service was initially created to protect the health of the United States merchant marines. This purview quickly expanded to include almost all seamen in the United States by the start of the twentieth century.[346] Thus, over the nineteenth century, the MHS's momentum of expansion of care allowed individuals to direct that expansion to fill specific health gaps, momentum that Dr.

[343] The same data driven approach closed the Crisfield station in 1893.
[344] Straus, *Medical Care for Seamen; the Origin of Public Medical Service in the United States*, 83.
[345] Ibid., 14.
[346] For a complete list of every expansion of service see: Schmeckebier, *The Public Health Service Its History, Activities and Organization*, 1923, 77–79.

Wyman used to expand care in the Chesapeake Bay. Though its service mission expanded over time, the goal was still limited in scope. Where the Maryland Board of Health's mission was to "have general care of the sanitary interest of the people," the MHS's prime directive was always to "provide for the relief of sick and disabled Seamen."[347] This focused mission allowed the MHS to zero in on its medical demographic. Where the Maryland Board of Health had to contend with the sanitation of Baltimore and the policing of the state's medical professionals, the Marine Hospital Service only had to worry about providing care for seamen.

Alongside this was the MHS reorganization into an independent professional medical organization in 1870. After this, the Service was able to leverage its newly granted professional autonomy to establish the Solomons Relief Station, along with other stations around the country. During the decade after its reorganization, the number of MHS stations increased by almost three-hundred percent to 210 by 1878.[348] The vast majority of these stations were of the Third Class; in 1877 there were 143 such stations.[349] This professional independence, built upon the newly formed cultural authority of the medical profession allowed the MHS to move resources to provide medical care where it deemed it necessary.[350]

The creation of the Solomons Island Station took place within a larger expansion of the service into insular areas. The expansion of these smaller stations was credited in the 1878 Annual Report with reducing graft, as many persons would be admitted into the hospitals "for

[347] *Seventh Biennial Report of the State Board of Health of Maryland,* 1; An Act for the relief of sick and disabled seamen.
[348] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1895.*, 127.
[349] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1876 and 1877.* (Washington, DC.: G.P.O.., 1877), 37–38.
[350] For a more complete look at cultural authority and the expansion into public health see: Starr, *The Social Transformation of American Medicine*, chaps. 3 & 5.

the treatments of ailments which did not require hospitalization."[351] Nor was Solomons Island the only case of a station being constructed in an area that was not frequented by merchant vessels. The service also had stations in, for example, the fishing town of Waldoboro, Maine and as far inland as Moorhead, Minnesota (along the Red River). This expansion of smaller stations showcases a massive enlargement of the professional bureaucracy of the MHS, the result of this was that the MHS became more efficient and effective in delivering care. "The number of offices or out patients of the service has gradually increased year by year . . . as a natural consequence the number of hospital cases has measurably diminished with a corresponding increase in their gravity."[352] Thus, the case of the Solomons Island Relief Station can be understood within a greater bureaucratic expansion, the only difference being that this specific expansion was well documented.

Whereas other stations in Maryland (Baltimore, Crisfield, and Annapolis, all at various times) were established due to their connection with foreign shipping, fulfilling the MHS original goal of treating seamen on international ships. The Solomons Island Relief Station was explicitly established to treat the insular oyster dredger. Walter Wyman sent the *Stevens* into the Patuxent for on purpose: to be a "temporary shelter hospital during the ensuing three months for the relief of the sick and disabled [oystermen]."[353] One can see this instance fitting in with the MHS expansion of the term seamen, "As far as the service is concerned, any person employed on board in the care, preservation, or navigation of any vessel, or of those engaged in such care, preservation, or navigation," and as part of its evolution into the Public Health Service.[354]

---

[351] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1876 and 1877.*, 65.
[352] Ibid., 66.
[353] Letter to Medical Officer in Command, Baltimore, from Surgeon Walter Wyman. December 30, 1889. Vol. 74, RG 90. NARA, College Park, MD.
[354] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1875.* (Washington, DC: G.P.O., 1875), 5.

Instead of operating within the confines of Gilded Age non-intervention ideology on industrial health, MHS officials such as Walter Wyman saw it as their duty to provide for the welfare of those industrial laborers working in unsafe conditions. Despite concerns over the treatment of these men, the MHS lacked the authority to improve their working conditions; it could, however, provide post-triage care where preventative regulation was not in place. It was not just MHS officials that saw this health gap. In powerful and eloquent language the *Baltimore Sun* laid the blame for these dangers on the business conditions which allowed such cruelty to flourish, a result of the "selfish brutality" endemic to the industry which created the conditions for this health gap.[355]

With the reorganization of the Service by Congress in 1870, new privileges offered by new professional standards let the MHS focus on providing care for seamen. The Service's annual reports are filled with statistics tracking their relief in minute detail, while also providing insight into how to improve medical care through case studies and reports on new procedures.[356] These reports show a dedicated and professional class of doctors focused on their directives as outlined by Congress. They also indicate that the MHS was eager to expand its care group, as it

[355] "Protection to Oystermen." 1885.

[356] Congress required such reports to be delivered. Listed here are all the reports used in this essay: *First Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Year 1872.*; *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1875.*; *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States, for the Fiscal Year 1881*; *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1883.*; *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1885.* (Washington, DC: G.P.O., 1885); *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1890.*; *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States, for the Fiscal Year 1890*; *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1892.* (Washington, DC: G.P.O., 1892); *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1893*, (Washington, DC: G.P.O., 1893); *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1895.*; *Annual Report of the Surgeon-General of the Public Health and Marine-Hospital Service of the United States for the Fiscal Year1902*; *Annual Report of the Surgeon General of the Public Health Service of the United States.* 1912; William Marsh, "T27.1 Annual Report of the Surgeon General." (Marine Hospital Service, 1932), Courtesy of the Paul L. Berry Reference Library at the Calvert Marine Museum.

did in 1872 when it urged Congress to expand the definition of seamen.[357] Walter Wyman's 1884 paper calling attention to the plight facing dredgers in the Chesapeake, lamenting that they are "compelled to work at all hours and in all weather, sick or well," supports this conclusion.[358] In sending the *Stevens* to the Patuxent Harbor at Drum Point in Solomons Island, Maryland, the MHS was fulfilling its goal of providing relief to seamen but was also acting in a way unique for the federal government.

[357] *First Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Year 1872.*, 25; *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States, for the Fiscal Year 1881*, 15.—"...as of yet we have no public provisions looking into the prevention of disasters."
[358] Wyman, "Hardships of the Coasting Trade, and Particularly of the Chesapeake Bay Oystermen," 276.

## Conclusion

Over its forty-one year span, the Marine Hospital Service Third Class Relief Station at Solomons Island (no. 332) provided medical care to 11,381 people.[359] By the 1920s, however, the number of men seeking relief was declining as a result of the mechanization of labor, which led to smaller crews, and the depletion of many oyster beds, which resulted in fewer skipjacks on the Bay.[360] Even with declining enrollment of patients, the Marine Hospital Service (MHS) justified the continuation of the station because it was the only medical facility in the area.[361] When the owner of the property (C. Davis) decided not to renew his lease at the end of the 1930 oyster season, Dr. William Marsh chose to retire (he was 79 at the time).[362] In light of this, the Service closed the station in July 1930.[363]

[359] William Marsh, "T27.1 Annual Report of the Surgeon General." (Marine Hospital Service, 1932), Courtesy of the Paul L. Berry Reference Library at the Calvert Marine Museum.
[360] W. H. Marsh, "Annual Report, USPHS Relief Station, 3 Davis Street, Solomons, Maryland" (United States Public Health Service, July 7, 1930), Box 333, RG 90. NARA College Park, MD.—"The sailing vessels with their crews of 5 or 6 men have given way to motor driven vessels with a crew of 2 or three men . . . it was not unusual to see 75 to 100 vessels anchored at night numbers of crews being applicants for relief, this is a thing of the past; the depletion of oyster beds of the bay has forced these out of business."
[361] B.S. Warren, "Inspection Report of Relief Station No. 332" (United States Public Health Service, October 20, 1926), Box 333, RG 90. NARA College Park, MD.
[362] W.H. Marsh, "Letter to the Surgeon General," May 16, 1930, Box 333, RG 90. NARA College Park, MD; C.C. Pierce, "Letter to the Chief Clerk," July 12, 1930.
[363] Marsh, "Annual Report, USPHS Relief Station, 3 Davis Street, Solomons, Maryland"; "Memo to the Baltimore Office" (United States Public Health Service, July 29, 1930), Box 333, RG 90. NARA College Park, MD.

Figure 16: The last location of the Solomons Island Relief Station at 3 Davis Street. It is now part of the University of Maryland's Chesapeake Biological Laboratory. Photo courtesy of the Paul L. Berry Reference Library at the Calvert Marine Museum.

This thesis has sought to explore the nature of government-run medical relief in the late nineteenth century by examining the MHS's creation of the Solomons Island Relief Station in Maryland. Because of the economic importance of the oyster industry, the government of Maryland considered the Bay an economic entity in addition to being an environmental place. This consideration divided the Bay into two zones of extraction and split that labor into tonging and dredging.[364]

The Chesapeake Bay as a workspace was hazardous to both tongers and dredgers. The environment of the Bay offered a number of natural hazards that both tongers and dredgers equally faced. First among the environmental hazards was exposure. With the oyster season running through the "r" months (October-April) the risk of exposure, and especially frostbite, were constant. In January 1886, in Baltimore City's Bay View Asylum had one-hundred cases of oystermen with frostbite, in a single day.[365] However, on the skipjack dredgers faced a second

[364] Mohun, *Risk*.
[365] Sun, "So-Called Frostbitten Dredgers."

layer of risk. The skipjack was a dual construct, being a creation of the Bay's environment and the political will of Maryland. With the General Assembly forbidding the mechanization of dredging, the skipjack was designed to take full advantage of the wind and for maximum maneuverability.

This anti-mechanization also extended to the act of dredging; oyster dredgers had to operate the windlass without an assistance or power. Injury from the windlass was the most common cause for a dredger to seek medical relief.[366] The workplace of the skipjack relied not on skilled seamen, but unskilled or semi-skilled workers. This organization made dredging an industrialized affair. Dredgers were not experienced oystermen; they were hired for the season and, unlike the tonger, did not own their equipment and lacked that connection to nature that tongers enjoyed.[367] Because of this dredgers faced both environmental and industrial health threats. Unfortunately for dredgers, nineteenth century ideas of assumed risk, contributory negligence, and the fellow servant rule largely absolved management from being held responsible for workplace injuries.[368]

This industrialized workspace was essential for coding how the Maryland Board of Health and Bureau of Industrial Statistics interpreted the dangers facing dredgers. In keeping with Gilded Age thought, both these agencies found the cause of injuries and diseases lay with the workers, not with the nature of their work. In its 1878 report on the poor health of oystermen, the Maryland Board of Health noted that: "Mentally they are ignorant, superstitious, and dull."[369] Ten years later, in an examination of the "Sickness Among the Laboring Classes" the Board fully

[366] W.H. Marsh, "The Relief Station at Solomons, M.D.," 71.
[367] Botwick and McClane, "Landscapes of Resistance."
[368] Mohun, *Risk*, 52–68 &117–40.
[369] *Second Biennial Report of the State Board of Health of Maryland. January, 1878.* 33–36.

accepted the idea of contributory negligence, stating: "there are numerous cases where classes of workmen sustain injury to their health from want of pre-caution[sic]."[370]

This episode on the Chesapeake Bay falls within a wider narrative of the issues in regulating an industrial economy and the development of welfare policies. Morton Keller, in *Affairs of State* describes industrial regulation in the late nineteenth century as a state where the government was suspended between old preindustrial, or traditional, values and the new industrial economic reality.[371] These traditional values, while advantageous for the independent trade smiths like tongers, did not translate into providing security for industrial wage laborers. Prioritization of laissez-faire capitalism injected a pro-employer bias into America's legal framework. While powerful local party machines and a democratic distrust of centralized elites made introducing federal regulations difficult.[372] Even within Maryland there existed this tension, with the locally rooted tongers resisting intrusion from state officials, the result was the creation of county and state waters.[373]

Ideas of who deserved to receive social protections also limited the range of choice for the Maryland Board of Health. Theda Skocpol's *Protecting Soldiers and Mothers* shows the heavy partisan role in establishing welfare organizations.[374] Social support and economic subsidies for service institutions was embedded within the patronage system, and with one-quarter of the U.S. budget going to pension services, this represented a large locus for political influence or reward.[375] This situation resulted in a system where "[t]he only Americans forced to be 'hardy individuals' . . . [were] men who were not fortunate to enjoy party patronage," a

[370] *Seventh Biennial Report of the State Board of Health of Maryland,* 12.
[371] Keller, *Affairs of State*.
[372] Ibid., 318–404.
[373] Keiner, *The Oyster Question*, 2010, 8.
[374] Skocpol, *Protecting Soldiers and Mothers*.
[375] Ibid., 65–93.

system that "helped many Americans economically, without making them feel like clients of a welfare state."[376]

Maryland's reactions to the health risks oyster dredgers faced were guided by late nineteenth century ideas of the role of government and rights of laborers, and falls into a nationwide reaction to late nineteenth century industrialization. Contributory negligence, assumed risk, and the fellow servant rule were all reactions to this great economic and social change; legislatures sought to protect preindustrial ideals that sanctified individualism and preserved local economic autonomy. These traditional understandings of employment—the fellow servant rule entered American jurisprudence in 1842—are apparent in the Board of Health and Bureau of Industrial Statistic's praise of the rurally located skipjack captains and tongers ("Bay men").[377] These ideals implied that "employees assumed all risks ordinarily associated with his work."[378] Thus, Maryland used these ideas of workplace safety and the definition of oyster dredgers as industrial workers to justify not intervening for their safety.

By comparison, the MHS did not use contributory negligence, the fellow servant rule, or assumed risk to write off the oyster dredger's health problems. MHS officials like Walter Wyman and William Marsh observed that the nature of the dredgers' employment was the cause of these hazards.[379]

This sympathetic view led the MHS to intervene on behalf of the Maryland oystermen. Taking advantage of the authority and professional liberty granted by the 1870 reorganization, the MHS Solomons Island Third Class Relief Station was established. This was part of an expansion of the MHS, as noted in Chapter III from 1870 to 1880 the number of MHS facilities

[376] Ibid., 100.
[377] Keller, *Affairs of State*, 401; Brooks, *Report of the Oyster Commission of the State of Maryland*, 285.
[378] Keller, *Affairs of State*, 401.
[379] Wyman, "Hardships of the Coasting Trade, and Particularly of the Chesapeake Bay Oystermen"; W.H. Marsh, "The Relief Station at Solomons, M.D."

tripled.[380] In its First Annual Report, the MHS requested that the scope of its medical demographic be expanded to include "revenue cutters, coast survey vessels, vessels of the Engineering Corp of the Army, and the Light-House Board."[381] In 1902, the Marine Hospital Service became the Marine Hospital and Public Health Service to reflect its expanded duties, and in 1912 became the Public Health Service.[382]

The MHS had a singular relief mission and was able to use that singularity to focus its energies on filling medical care lapses across the United States. Unlike the MHS, which was charged to "provide the temporary relief and maintenance of sick or disabled seamen," the Maryland Board of Health had a broader directive to provide for the "general care of the sanitary interest of the people."[383] The Maryland Board of Health, then, executed its mission by working to professionalize medicine in the state, improve sewage systems, and prevent the outbreaks of contagious diseases.[384] Thus, the idea of protecting oyster dredgers (who according to Gilded Age thought were responsible for their own health) was not part of its mission.

Bureaucracies' goals are fundamental in the development of policy. Maryland's agencies focused on public welfare through water management and vital statistic collection which necessitated that they ignore specific occupational groups. This resulted in the Maryland Board of Health continuing Gilded Age conservative ideas on the nature of government health regulation and intervention into economic spaces. The Board of Health was also highly concerned with professionalizing medicine in Maryland. The Board had a vested self-interest in

---

[380] *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1895.*, 187.
[381] *First Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Year 1872.*, 25.
[382] Schmeckebier. *The Public Health Service Its History, Activities and Organization*, 1. In 1912 the name was changed again to the Public Health Service.
[383] An Act for the relief of sick and disabled seamen, sec. 3. *Seventh Biennial Report of the State Board of Health of Maryland*, 1.
[384] *Seventh Biennial Report of the State Board of Health of Maryland,* 1.

pushing for improved professional standards in Maryland, because doing so solidified its cultural authority. This self-improvement necessitated that a decent amount of energy that could have been targeted at addressing health issues in the state instead be focused on self-policing and the establishment of professional standards. The Board operated within a strict interpretation of its purpose, creating a situation where the MHS felt it necessary to intervene. The MHS espoused a more Progressive interventionist view and actively moved to fill a medical care gap on the Chesapeake and did so within the context of its expanding professional purview. Both the Maryland Board of Health and the Marine Hospital Service used the cultural authority afforded to them as professional organizations to create government policy.

In this the federal government reacted to the needs of injured and poorly protected workers, challenging the notion that the federal government took a hands-off approach to public health during the Gilded Age. It must be noted, though, that there were a number of contributory factors that allowed this to occur. The economic importance of the oyster industry to the state refracted how state-level agencies understood the health risk facing oystermen, and oyster dredgers specifically. Recall the concern over Baltimore City's plan to construct a new sewage system (Chapter II). The State Board of Health's focus was on "[t]he effect that the emptying of such an enormous volume of human excrement [from Baltimore] into the Bay would have upon the fish and oyster."[385] No Maryland entity could escape the oyster's importance to the economy; one report suggested that 300,000 people's incomes came from the oyster industry.[386]

This examination of government sponsored medical relief on the Chesapeake Bay has exposed some more nuanced questions that could be explored further. This thesis has focused on the actions and choices of institutions, in doing so the voice of the oyster dredger has been left

[385] *Sixth Biennial Report of the State Board of Health of Maryland, January 1886.*, 30.
[386] Wyman, "Hardships of the Coasting Trade, and Particularly of the Chesapeake Bay Oystermen," 274.

muted in the background. Some of that voice is available through newspapers, such as the *Baltimore Sun*, but that voice was curated. It would be useful to gain a deeper insight into the opinions of the oyster dredgers. Specific areas to explore could include their opinions of the MHS stations in the Bay.

Such an exploration would benefit greatly from examining other social factors which may have influenced why Maryland's Board of Health did not choose to intervene on behalf of the oyster dredgers. As immigrants accounted a majority of the workforce (with the two largest groups being German and Irish), a more minute examination of the demographics of the workforce could lead to some new conclusions for why Maryland did not seem to worry about the dredgers' welfare. A further examination of race as part of this question should also be considered as African-Americans accounted for about one-third of the oyster industry's workforce.[387] Either of these approaches could connect this event to wider understandings of ethnicity and race in relation to medical care. Examining the wider discourse of workers' rights when wounded would serve to further incorporate this discussion into the changes brought forth in late nineteenth century industrialization. A closer analysis of court cases where dredgers attempted to win recompense for injuries suffered on the skipjack would add an additional layer of depth to this story, and could serve as another vehicle to giving the oysterman a voice. Finally, this thesis did not look at the politics of Maryland. The state has been a Democratic stronghold since before the Civil War. Reintroducing the politicians, the General Assembly and governors, into this examination would help expose the influences of the oyster industry on policy in Maryland. Secondary work such as *The Oyster Question* alludes to this fact, but showing how

[387] Stevenson, "Sixth Biennial Report for the Bureau of Industrial Statistics and Information of Maryland, 1894-'95: 'The Oyster Industry of Maryland.' (pp: 270-385).," 286.

political forces worked to prevent the dredgers from receiving medical relief would add another layer of depth to the history of the Chesapeake Bay.

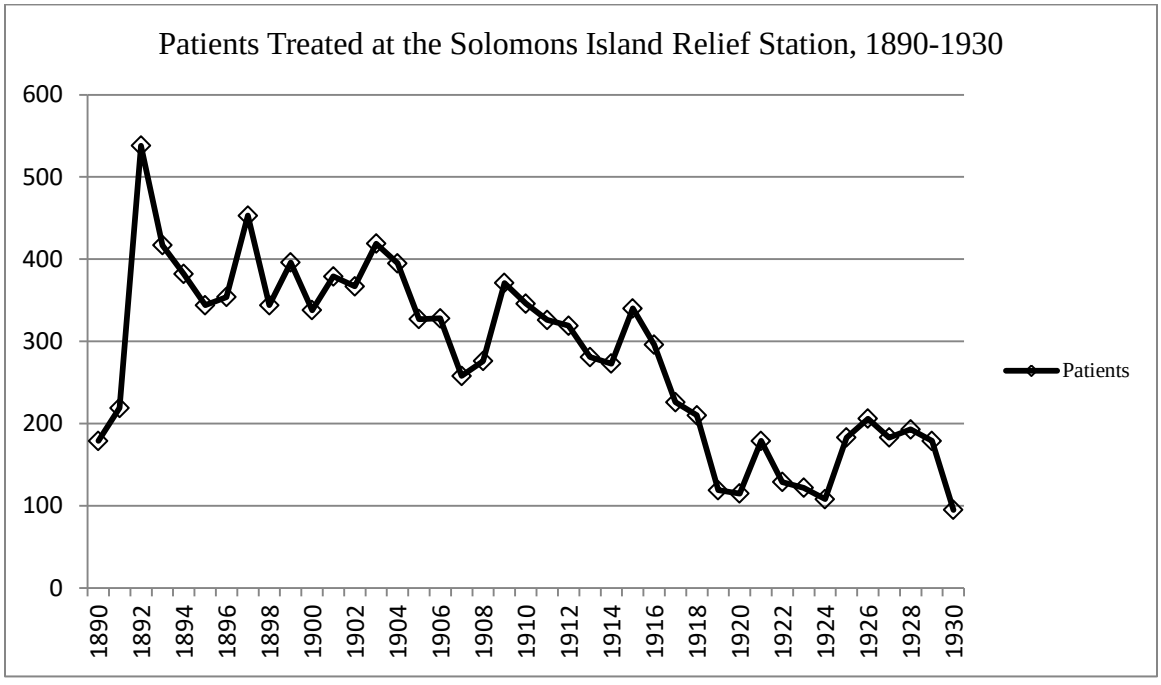
As the oyster population declined and oyster beds started to disappear, the number of skipjacks on the Bay fell. With hauls falling in the twentieth century, in 1928 the season brought in only 350,000 bushels. In 1890, 176 men applied for relief at the floating hospital, the *E.A. Stevens,* over a three-month period, in 1930, 95 men applied for relief throughout the entire oyster season (1929-1930).[388] The closure of the Solomons Island Relief Station in 1930 heralded the end of understanding the Chesapeake through a nineteenth century lens for Maryland. Environmental concerns began to challenge economic priorities of the oyster industry.[389] As skipjacks ceased to dredge for oysters, so too did the MHS slow its treatment for the oystermen. Dr. William Marsh's retirement in 1930 heralded the end of one form of interventionist government policy by professional bureaucrats on the Chesapeake Bay. By 1940 there were only two MHS facilites on the Chesapeake Bay, one in Cambridge, on the Eastern Shore, and the other in Baltimore.[390] Like the skipjack, the MHS's presence on the Bay has faded into memory. In 1932 a new professional group with a growing cultural authority arrived at Solomons Island to address a new set of heath concern on the Chesapeake Bay: the environmental scientist.[391] The Solomons Island Relief Station No. 332, once at 3 Davis Street, is now part of the University of Maryland's Chesapeake Biological Laboratory. Fittingly, then, it is now used to hold scientific lectures on the health of the Chesapeake Bay.

[388] Marsh, "T27.1 Annual Report of the Surgeon General."
[389] Keiner, *The Oyster Question*, 2010.
[390] *Annual Report of the Surgeon General of the Public Health Service of the United States, for the Fiscal Year 1941*. (Washington, DC.: G.P.O.., 1941), 118.
[391] Wennersten, *The Chesapeake*, 2001, chap. 4; Keiner, *The Oyster Question*, 2010, chap. 3.

## Appendix:

The treatment totals for Solomons Island (no. 332) and selected totals for the state of Maryland.

| Year | Total # (S.I) | Total # (M.D.) | Year | Total # (S.I) | Total # (M.D.) | Year | Total # (S.I) | Total # (M.D.) |
|---|---|---|---|---|---|---|---|---|
| 1890 | 179 | 2,144 | 1904 | 395 | | 1918 | 210 | |
| 1891 | 219 | | 1905 | 327 | | 1919 | 119 | |
| 1892 | 538 | | 1906 | 328 | 1,696 | 1920 | 115 | 6,675 |
| 1893 | 417 | | 1907 | 258 | | 1921 | 179 | |
| 1894 | 382 | | 1908 | 276 | | 1922 | 129 | |
| 1895 | 344 | 2,409 | 1909 | 371 | | 1923 | 122 | |
| 1896 | 354 | | 1910 | 346 | | 1924 | 108 | |
| 1897 | 453 | | 1911 | 326 | | 1925 | 183 | 6,489 |
| 1898 | 344 | | 1912 | 319 | | 1926 | 206 | |
| 1899 | 396 | | 1913 | 281 | | 1927 | 183 | |
| 1900 | 338 | 3,056 | 1914 | 273 | | 1928 | 193 | |
| 1901 | 379 | | 1915 | 340 | 3,773 | 1929 | 179 | |
| 1902 | 367 | | 1916 | 296 | | 1930 | 95 | 11,342 |
| 1903 | 419 | | 1917 | 226 | | 1931 | 4 | |




Data Source: Marsh, William. "T27.1 Annual Report of the Surgeon General." Marine Hospital Service, 1932. Courtesy of the Paul L. Berry Reference Library at the Calvert Marine Museum.

Glossary:

- **Contributory Negligence**: An employee could not claim compensation form an employer for an injury if the said employee was found to be negligent in his actions.

- **Cultural Authority**: Usually confined to objects, this is the ability to construct truth through the control of facts and by defining what is, and is not, of value.

- **Cutter**: A small ship designed to move swiftly through the water. Most closely associated with various port authorities and coastal patrol agencies.

- **Doctrine of Assumed Risk**: Upon accepting employment an employee assumed all the risks associated with said employment

- **E. A. Stevens**: Laid down in 1844. The E.A. Stevens, also called the *Naugatuck,* was a gun boat with iron armor and saw action during the Civil War. After the war it was assigned to patrol the Carolinas as a Revenue Cutter for the U.S. Revenue-Marine, until 1889 when it was sent to Baltimore to be decommissioned. After its stint as a MHS Relief Station it was sold to Henry Brown for $3, 025 in April 1890.

- **Fellow Servant Rule**: An employer is not held liable for an employee's injury if another employee's negligence is found to have caused the first employee's injury.

- **Hand**: A person employed to work on a ship (not the captain or mate).

- **James Stoner**: Acting Assistant Surgeon of the MHS on the *E.A. Stevens* from January 1889 to April 1890.

- **John B. Hamilton**: (b. December 1, 1847 | d. December 24, 1898) Surgeon General of the Marine Hospital Service (April 1879 – May 1891).

- **Merchant Marine**: Vessels registered with the United States engaged in commerce and carrying goods and passengers in-and-out of U.S. waters.
-

- **Oyster Hand**: An infection caused by lacerations from oyster shells. The infection is from the *Vibrio vulnificus* bacteria and characterized by necrosis of the wound.

- **Schooner**: A type of ship with two or more masts commonly used on the Chesapeake.

- **Skipjack**: The state boat of Maryland since 1985. With a low freeboard (the distance from the water line to the deck), a long beam (the widest section of the boat, on skipjacks this ran about one third its length), a centerboard (retractable keel), and a large two sail mast the skipjack was perfectly designed to dredge for oysters. The freeboard allowed easy access to the water. The large beam and centerboard increased stability. Because the

centerboard was retractable skipjacks could also enter shallow waters. The large rigging allowed skipjacks to take full advantage of the wind as well.

- **Sloop**: A type of ship with a single mast commonly used on the Chesapeake.

- **Social Authority**: The power of individuals and organizations to give commands.

- **U.S. Revenue-Marine**: Established in 1790 (under the Treasury Department) to enforce customs, it was renamed the Revenue Cutter Service in 1894. In 1915 it was combined with the United States Life-Saving Service to become the U.S. Coast Guard.

- **Walter Wyman**: (b. August 17, 1848 | d. November 21, 1911) Surgeon General of the Marine Hospital Service (June 1891) and of the Marine Hospital and Public Health Service (July 1902- November 1911).

- **Watermen**: A catch all term for those involved in commercial fishing.

- **William Marsh**: (b. September, 14, 1851 | d. November 12, 1941) Action Assistant Surgeon for the MHS 3rd Class Relief Station at Solomons Island (no. 332) from 1890 to 1930. He received his M.D. from the University of Maryland in 1876. Afterward he worked in Baltimore City's Bay View Asylum and opened a private practice on Solomons Island in 1878. He also kept a recorded climate data from the Maryland State Weather Service (est. 1899).

Bibliography

**Marine Hospital Service Documents:**

*First Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Year 1872.* Washington, DC: G.P.O, 1872.

*Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1875.* Washington, DC: G.P.O, 1875.

*Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1876 and 1877.* Washington, D.C.: G.P.O., 1877.

*Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States, for the Fiscal Year 1881*. G.P.O, 1882.

*Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1883.* Washington, DC: G.P.O, 1883.

*Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1885.* Washington, DC: G.P.O, 1885.

*Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1886.* Washington, D.C.: G.P.O., 1886.

*Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1889.* Washington, DC: G.P.O, 1889.

*Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1890.* Washington, DC: G.P.O, 1890.

*Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States, for the Fiscal Year 1890*. G.P.O, 1891.

*Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1892.* Washington, DC: G.P.O, 1892.

*Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States.* G.P.O, 1893.

*Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States for the Fiscal Year 1895.* Washington, DC: G.P.O, 1895.

*Annual Report of the Surgeon-General of the Public Health and Marine-Hospital Service of the United States for the Fiscal Year 1902.* Washington, DC: G.P.O 1902.

*Annual Report of the Surgeon General of the Public Health Service of the United States.* Public Health Service Washington, DC: G.P.O 1912.

Hamilton, John B. "Letter to Dr. William Marsh," October 20, 1890. Vol. 78, RG 90. NARA, College Park, MD.

Marsh, W.H. "The Relief Station at Solomons, M.D." In *Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States*. Washington, DC: G.P.O, 1893.

Marsh, W.H. "Letter to the Surgeon General," May 16, 1930. Box 333, RG 90. NARA College Park, MD.

Marsh, W. H. "Annual Report, USPHS Relief Station, 3 Davis Street, Solomons, Maryland." United States Public Health Service, July 7, 1930. Box 333, RG 90. NARA College Park, MD.

Marsh, William. "T27.1 Annual Report of the Surgeon General." Marine Hospital Service, 1932. Courtesy of the Paul L. Berry Reference Library at the Calvert Marine Museum.

"Memo to the Baltimore Office." United States Public Health Service, July 29, 1930. Box 333, RG 90. NARA College Park, MD.

Pierce, C.C. "Letter to the Chief Clerk," July 12, 1930. Box 333, RG 90. NARA College Park, MD.

Warren, B.S. "Inspection Report of Relief Station No. 332." United States Public Health Service, October 20, 1926. Box 333, RG 90. NARA College Park, MD.

Wyman, W. "Hardships of the Coasting Trade, and Particularly of the Chesapeake Bay Oystermen." *Public Health Papers and Reports,* Vol. 10 (1884): 273–81

Wyman, Walter. "Letter to Medical Officer in Command, Baltimore," December 30, 1889, Vol. 74, RG 90. NARA, College Park, MD.

**Maryland Government (state and local) Documents:**

*Annual Report of the Health Department of the City of Baltimore, to the Mayor and City Council of Baltimore, for the Fiscal Year Ending in December 31, 1884.* 1885. Courtesy of the Maryland State Archives.

*Annual Report of the Health Department of the City of Baltimore, to the Mayor and City Council of Baltimore, for the Fiscal Year Ending in December 31, 1885.* 1886. Courtesy of the Maryland State Archives.

*Annual Report of the Health Department of the City of Baltimore, to the Mayor and City Council of Baltimore, for the Fiscal Year Ending in December 31, 1887.* 1887. Courtesy of the Maryland State Archives.

*Annual Report of the Health Department of the City of Baltimore, to the Mayor and City Council of Baltimore, for the Fiscal Year Ending in December 31, 1888*. 1889. Courtesy of the Maryland State Archives.

*First Biennial Report of the State Board of Health, of Maryland. January, 1876.* Printed by John F. Wiley, 1876. Courtesy of the Maryland State Archives.

*Second Biennial Report of the State Board of Health of Maryland. January, 1878*. Courtesy of the Maryland State Archives.

*Fifth Biennial Report of the State Board of Health of Maryland, January, 1884*. James Young, State Printer, Annapolis, MD. 1884. Courtesy of the Maryland State Archives.

*Sixth Biennial Report of the State Board of Health of Maryland, January 1886.* Printed by George T. Melvin, 1886. Courtesy of the Maryland State Archives.

*Seventh Biennial Report of the State Board of Health of Maryland, 1888*. Courtesy of the Maryland State Archives.

*Eighth Biennial Report of the State Board of Health of Maryland for the Years Ending December 31st, 1889.* 1890. Courtesy of the Maryland State Archives.

*Ninth Biennial Report of the State Board of Health of Maryland for the Two Years Ending December 31st, 1891*. C. H. Baughman & Co, State Printers, Annapolis, MD. 1892. Courtesy of the Maryland State Archives.

*Annual Report of the State Board of Health of Maryland for the Year Ending in December 31, 1898.* 1899. Courtesy of the Maryland State Archives.

*Annual Report of the State Board of Health of Maryland for the Year Ending December 31, 1907.* Printed by Geo. W. King Printing Co., State Printers., 1907.

*Annual Report of the State Board of Health of Maryland for the Year Ending December 31, 1930*. The Sun Job Print, 1931. Courtesy of the Maryland State Archives.

*Report of the Oyster Commission of the State of Maryland*. Annapolis, MD : 1884. Courtesy of the Maryland State Archives.

*Third Biennial Report of the Bureau of Industrial Statistics and Information of Maryland, 1888-'89*. Annapolis, MD: George T. Melvin, State Printer, 1890. Courtesy of the Maryland State Archives.

"Minutes of the Official Board of Solomons," May 30, 1904. Paul L. Berry Reference Library, Calvert Marine Museum, Maryland.

"Minutes of the Official Board of Solomons," May 16, 1904. Courtesy of the Paul L. Berry Reference Library at the Calvert Marine Museum.

Stevenson, Charles H. "The Oyster Industry of Maryland." in *Sixth Biennial Report for the Bureau of Industrial Statistics and Information of Maryland, 1894-'95:* (pp: 270-385).," 1895. Courtesy of the Maryland State Archives.

**Newspaper:**
*Calvert Gazette.* 1890-1893

*The Sun (1837-1990).* 1874-1895

**Acts of Congress:**
An Act for the relief of sick and disabled seamen, § II, ch.77 (1798).

An Act to reorganize the marine hospital service, and to provide for the relief of sick and disabled seamen, § II, ch.169 (1870).

An act to remove certain burdens on the American merchant marine and encourage the American foreign carrying trade and for other purposes." § I, ch. 121 (1884).

**Secondary Sources:**
Aldrich, Mark. *Safety First : Technology, Labor, and Business in the Building of American Work Safety, 1870-1939*. Baltimore, MD: Johns Hopkins University Press, 1997.

Anderson, Warwick. *Colonial Pathologies: American Tropical Medicine, Race, and Hygiene in the Philippines*. Durham, NC: Duke University Press, 2006.

Barnes, David S. *The Making of a Social Disease Tuberculosis in Nineteenth-Century France*. Berkeley, Ca.: University of California Press, 1995.

Bates, Barbara. *Bargaining for Life: A Social History of Tuberculosis, 1876-1938*. Philadelphia, PA: University of Pennsylvania Press, 1992.

Bensel, Richard Franklin. *Yankee Leviathan : The Origins of Central State Authority in America, 1859-1877*. Cambridge, UK: Cambridge University Press, 1990.

Botwick, Bradford, and Debra A. McClane. "Landscapes of Resistance: A View of the Nineteenth-Century Chesapeake Bay Oyster Fishery." *Historical Archaeology* Vol. 39, no. 3 (2005): 94–112.

Bryder, Linda. *Below the Magic Mountain: A Social History of Tuberculosis in Twentieth-Century Britain*. Oxford, UK: Clarendon Press, 1988.

Capper, John, Garrett. Power, and Frank R. Shivers. *Chesapeake Waters: Pollution, Public Health, and Public Opinion, 1607-1972*. Centreville, MD: Tidewater Publishers, 1983.

Clark, Claudia. *Radium Girls, Women and Industrial Health Reform: 1910-1935*. Chapel Hill, NC: University of North Carolina Press, 1997.

Corn, Jacqueline K. *Response to Occupational Health Hazards : A Historical Perspective*. New York, NY: Van Nostrand Reinhold, 1992.

Curtin, Philip D., Grace S. Brush, and George W. Fisher. *Discovering the Chesapeake: The History of an Ecosystem*. Baltimore, MD: The Johns Hopkins University Press, 2001.

Daniel, Thomas M. *Captain of Death: The Story of Tuberculosis*. Rochester, NY: University of Rochester Press, 1997.

Derickson, Alan. *Black Lung: Anatomy of a Public Health Disaster*. Ithaca, NY: Cornell University Press, 1998.

Dodds, Richard J. "In Time of Need--The Solomons 'Marine Hospital', 1890-1930." *The Bugeye Times, Quarterly Newsletter of the Calvert Marine Museum*, Winter 1994.

Downs, Jim. *Sick from Freedom : African-American Illness and Suffering during the Civil War and Reconstruction*. New York, NY: Oxford University Press, 2012.

Dubos, René J., and Jean Dubos. *The White Plague: Tuberculosis, Man and Society*. Boston, MA: Little, Brown, 1952.

Duffy, John. *The Sanitarians: A History of American Public Health.* Urbana, IL: University of Illinois Press, 1992.

Ekelund, Robert B. *The Economics of Edwin Chadwick : Incentives Matter*. Cheltenham, UK: Edward Elgar Pub. 2012.

Fox, Carroll. "Public Health Administration in Baltimore: A Study of the Organization and Administration of the City Health Department." *Public Health Reports (1896-1970)* Vol. 29, no. 24 (1914): 1488–1564.

Furman, Bess. *A Profile of the United States Public Health Service, 1798-1948,*. Bethesda, MD: National Institutes of Health, 1973.

Gifis, Steven H. *Dictionary of Legal Terms : A Simplified Guide to the Language of Law*. Hauppauge, N.Y.: Barron's Educational Series, Inc, 1998.

Gilje, Paul A. *Liberty on the Waterfront : American Maritime Culture in the Age of Revolution*. Philadelphia, PA: University of Pennsylvania Press, 2004.

Habermacher, Andrew Lee. "Work and Health of the Chesapeake Bay Commercial Fishermen of Somerset County, Maryland." Ph.D. Dissertation, University of Florida, 1986. http://ufdc.ufl.edu/UF00103067/00001.

Hamilton, Alice. *Exploring the Dangerous Trades; the Autobiography of Alice Hamilton, M.D.* Boston, MA: Harvard University Press, 1943.

Hamowy R. "The Early Development of Medical Licensing Laws in the United States, 1875-1900." *The Journal of libertarian studies* Vol. 3, no. 1 (1979): 73–119.

Keiner, Christine. *The Oyster Question: Scientists, Watermen, and the Maryland Chesapeake Bay since 1880*. Athens, GA: University of Georgia Press, 2010.

Keller, Morton. *Affairs of State: Public Life in Late Nineteenth Century America.* Cambridge, MA: The Belknap Press of Harvard University Press, 1977.

———. *Regulating a New Economy: Public Policy and Economic Change in America, 1900-1930.* Cambridge, MA: Harvard University Press, 1990.

Kevles, Daniel J. *The Physicists : The History of a Scientific Community in Modern America*. Cambridhe, MA: Harvard University Press, 1978.

Layton, Edwin T. *The Revolt of the Engineers; Social Responsibility and the American Engineering Profession*. Cleveland, OH: Press of Case Western Reserve University, 1971.

Leopold, Ellen. *Under the Radar: Cancer and the Cold War*. New Brunswick, NJ: Rutgers University Press, 2009.

Lewis, R. A. *Edwin Chadwick and the Public Health Movement, 1832-1854.* London, UK: Longmans, Green, 1952.

Lynch, Maurice P., Krome, Elizabeth C. "Understanding the Estuary : Advances in Chesapeake Bay Research." In *Understanding the Estuary : Advances in Chesapeake Bay Research*. Solomons Island, MD : Chesapeake Research Consortium, 1988.

Markowitz, Gerald E, and David Rosner. *Deceit and Denial: The Deadly Politics of Industrial Pollution*. Berkeley, CA: University of California Press, 2002.

Melosi, Martin V. *The Sanitary City : Environmental Services in Urban America from Colonial Times to the Present*. Pittsburgh, PA: The University of Pittsburgh Press, 2008.

Mohun, Arwen. *Risk : Negotiating Safety in American Society*. Baltimore, MD: Johns Hopkins University Press, 2013.

Mullner, Ross M. *Deadly Glow: The Radium Dial Worker Tragedy*. Washington, DC: American Public Health Association, 1999.

Ott, Katherine. *Fevered Lives: Tuberculosis in American Culture since 1870*. Cambridge, MA: Harvard University Press, 1996.

Pritchard, Sara B. *Confluence : The Nature of Technology and the Remaking of the Rhône*. Cambridge, MA: Harvard University Press, 2011.

Reverby, Susan. *Examining Tuskegee: The Infamous Syphilis Study and Its Legacy*. Chapel Hill, NC: University of North Carolina Press, 2009.

Rosenberg, Charles E. *Explaining Epidemics and Other Studies in the History of Medicine*. Cambridge, NY: Cambridge University Press, 1992.

Rosenberg, Charles E., Janet Lynne Golden, and Francis Clark Wood Institute for the History of Medicine, eds. *Framing Disease: Studies in Cultural History*. New Brunswick, N.J: Rutgers University Press, 1992.

Rosner, David, and Gerald E Markowitz. *Deadly Dust: Silicosis and the Politics of Occupational Disease in Twentieth-Century America*. Princeton, NJ: Princeton University Press, 1991.

———. *Dying for Work: Workers' Safety and Health in Twentieth-Century America*. Bloomington, IN: Indiana University Press, 1987.

Schmeckebier, Laurence Frederick. *The Public Health Service Its History, Activities and Organization*. Baltimore, MD: Johns Hopkins Press, 1923.

Sellers, Christopher C. *Hazards of the Job: From Industrial Disease to Environmental Health Science*. Chapel Hill, NC: The University of North Carolina Press, 1999.

Skocpol, Theda. *Protecting Soldiers and Mothers: The Political Origins of Social Policy in the United States.* Cambridge, MA: The Belknap Press of Harvard University Press, 1992.

Sky, Theodore. *To Provide for the General Welfare : A History of the Federal Spending Power*. Newark, DE: University of Delaware Press , 2003.

Smith, Herbert C. *Maryland Politics and Government : Democratic Dominance*. Lincoln, NE: University of Nebraska Press, 2012.

Starr, Paul. *The Social Transformation of American Medicine*. New York, NY: Basic Books, 1982.

Straus, Robert. *Medical Care for Seamen; the Origin of Public Medical Service in the United States*. Merchant Seamen Studies, v. 1. New Haven, CT: Yale University Press, 1950.

Strecker, Mark. *Shanghaiing Sailors: A Maratime History of Force Labor, 1849-1915*. Jefferson, NC: McFarland & Company Inc., Publishers, 2014.

Thiesen , William H."The Long Blue Line: Gunboat Cutter E.A. Stevens—the Revenue Cutter Service's Experiment in Modern Naval Technology (Part 1 of 2)." *Compass*. Accessed March 3, 2017. http://coastguard.dodlive.mil/2017/01/the-long-blue-line-gunboat-cutter-e-a-stevens-the-revenue-cutter-services-experiment-in-modern-naval-technology-part-1-of-2/.

Tomes, Nancy. *The Gospel of Germs: Men, Women, and the Microbe in American Life*. Cambridge, MA.: Harvard University Press, 1998.

Warren, Christian. *Brush with Death: A Social History of Lead Poisoning*. Baltimore, MD: Johns Hopkins University Press, 2000.

Wennersten, John R. "The All Mighty Oyster: A Saga of Old Somerset and the Eastern Shore, 1850-1920." *Maryland Historical Magazine* Vol. 74, no. 1 (March 1979): 80–93.

———. *The Chesapeake: An Environmental Biography*. Baltimore, MD: Maryland Historical Society, 2001.

———. *The Oyster Wars of Chesapeake Bay*. Centreville, Md.: Tidewater Publishers, 1981.

Wharton, James. *The Bounty of the Chesapeake: Fishing in Colonial Virginia*. Williamsburg, VA: Virginia 350th Anniversary Celebration, 2008. http://www.gutenberg.org/ebooks/26632.

White, Christopher P. *Skipjack : The Story of America's Last Sailing Oystermen*. New York, NY: St. Martin's Press, 2009.

Williams, Harold A. *The Baltimore Sun, 1837-1987*. Baltimore, MD: Johns Hopkins University Press, 1987.

Witt, John Fabian. *The Accidental Republic : Crippled Workingmen, Destitute Widows, and the Remaking of American Law*. Cambridge, MA: Harvard University Press, 2004.

Zeller, Thomas, and Sara Pritchard. "The Nature of Industrialization." In *The Illusory Boundary Environment and Technology in History*, edited by Martin Reuss and Stephen H. Cutcliffe. Charlottesville, VA: University of Virginia Press, 2010.

**Web Sites:**

"Chesapeake Bay Facts and Figures." *Maryland Sea Grant*, April 27, 2013. http://www.mdsg.umd.edu/topics/ecosystems-restoration/chesapeake-bay-facts-and-figures.

"Crassostrea Virginica." Accessed March 4, 2016. http://www.sms.si.edu/IRLSpec/Crassostrea_virginica.htm.

(OSG), Office of the Surgeon General. "History of the Office of the Surgeon General." Accessed April 7, 2016. http://www.surgeongeneral.gov/about/history/index.html.

"On the Water - Fishing for a Living, 1840-1920: Commercial Fishers > Chesapeake Oysters." Accessed March 4, 2016. http://americanhistory.si.edu/onthewater/exhibition/3_5.html.

"Oysters - Fish Facts - Chesapeakebay.noaa.gov." Accessed April 5, 2016. http://chesapeakebay.noaa.gov/fish-facts/oysters.

"Port of Baltimore, Maryland." Accessed February 9, 2017. http://msa.maryland.gov/msa/mdmanual/01glance/html/port.html.