

CHRISTOPHER L. PASTORE

Between Land and Sea



THE ATLANTIC COAST AND THE
TRANSFORMATION OF NEW ENGLAND



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*The Atlantic Coast and the Transformation
of New England*

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For Susie, Rosie, and Abe

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Preface

I grew up at the northern end of Narragansett Bay, a few blocks from the tidal Providence River. When I was an infant, so I am told, my parents lulled me to sleep to the hum of an outboard engine. As a child I spent summer days catching crabs and minnows in the tidal pools down the road and countless weekend afternoons in a bathing suit, digging quahogs in the passage between Prudence and Patience Islands. On other days, we left the house early with piles of books and newspapers, coolers, umbrellas, blankets, and buckets and drove to Newport, where we arrived on the beach before the lifeguards and left when the sun hung low on the horizon. I grew up sailing and fishing on the Bay and sitting by bonfires on its beaches. So my interest in the coast of southern New England grew not from some burning historical question or exotic archival discovery but from many years of living with the Bay as an important part of my everyday existence.

As an environmental historian of early America, I wanted to know how, over the long sweep of time, the people of Narragansett Bay interacted with and understood the estuary that sustained them. I discovered that for centuries Rhode Islanders (as well as the people of southeastern Massachusetts) have been deeply connected to the place, so much so that they felt compelled to change it. But as they did, it shaped them in return. So here I have endeavored to show that process. Although I have not lived by the Bay for some time, it has molded my imagination. It has surely conditioned the way I have read my evidence and the patterns

Preface

by which I have constructed this narrative. Indeed, by design, this book undulates in its early chapters and grows increasingly structured, thereby mirroring the changing estuary it describes. Ultimately, I make a case for cultivating a more dynamic relationship between people and the sea. And to do that, we must let the ocean in. So if these pages evoke the smell of mud and salt or the feeling of standing alongshore before the breeze, well, that is all I can hope.

PROLOGUE

From Sweetwater to Seawater

“BUT FOR THEIR later Descent, and whence they came . . . ,” wrote Roger Williams of the Narragansett Indians in 1643, “it seemes as hard to finde, as . . . the *Well-head* of some fresh *Streame*, which running many miles out of the *Coutrey* to the salt *Ocean*, hath met with many mixing *Streames* by the way.” That Williams, new to the shores of Narragansett Bay, likened the history of his Indian neighbors to the myriad inlets and outlets of an estuary was no coincidence. The Bay and its upland sources, its tidal ebb and flood, and even its seasonal winds largely defined the rhythms of Native American and settler life there. And like the greater estuary’s indeterminate geography, the indigenous people who inhabited the western shore and islands of Narragansett Bay, at least to Williams’s English sensibilities, lacked identifiable beginnings. “They say themselves,” he wrote, “that they have *Sprung* and *growne* up in that very place, like the very *trees* of the *Wildernesse*.”¹

As Rhode Island’s founder and first ethnographer, Williams labored tirelessly to recover the history of the Narragansett people, but his observations suggest that the littoral, or coastal, environment in which they lived was something altogether unknowable. Trickling from the forest at one end and pouring into the ocean at the other, the moving waters of the estuary (from the Latin *aestuarium*, meaning to fluctuate or boil), formed a meandering seam among the folds of which were tucked the mysteries of nature.² Teeming with life, the ocean’s edge, one of the most fertile environments on earth, overwhelmed the senses. Clear, cold water coursed

through vibrant green grasslands suffused with the smell of peat and filled with the trill of insects. For this deeply devout Puritan, the damp soil between America's wooded fringe and the vast ocean that brought him to it germinated, however inexplicably, the seeds of life. Like the clay from which God had molded mankind, the people of the Bay and all that surrounded them had been sculpted from a mixture of water and earth. So shrouded in mystery was this place that when Williams went in search of the "little island" from which he had been told the Narragansett name derived, he saw it nestled somewhere "on the sea and freshwater side" of southwestern Rhode Island but could neither reach it nor learn "why it was called Nahiganset."³

As Williams well understood, the communion of land and sea shaped much more than the sound of the surf. Indeed, estuaries had captivated some of the most imaginative early modern minds. Only a few years earlier, the Thames River had inspired what is widely considered the first English landscape poem. When during the winter of 1640 Sir John Denham climbed Cooper's Hill outside of London, he looked down upon "the most lov'd of all the Ocean Sons," as it flowed "Hasting to pay his tribute to the Sea / Like mortal life to meet Eternity." For Denham, a human Thames flowed into an eternal ocean, which, among the swirling waters of the estuary, formed the gateway of empire. This was a river that "Visits the World," returning with wealth and bestowing it "where it wants." "[T]o us," Denham explained, "no thing, no place is strange" because "his fair bosom is the World's exchange." So powerful was the Thames that Denham carefully noted it had made "both *Indies* ours." In its ability to merge human initiative and boundless nature, the estuary had ushered in a new era of globalization.⁴

As pools of communal identity and rivers of imperial ambition, estuaries seeped deeply into the human psyche. If land provided permanence, the sea was ephemeral. If interiors provided isolation, the ocean provided connection. Security on shore gave way to uncertainty at sea. Construction gave way to corrosion.⁵ These coastal contrasts were so stark that some envisioned littoral spaces as "beginnings and endings," as places that "divide[d] the world between here and there, us and them, good and bad, familiar and strange."⁶ But for others, the shore defied duality. As zones of cultural contact and exchange, these brackish

borderlands were permeable and elastic, spaces of syncretism rather than separation.⁷ Deeply complex, coastal frontiers often formed worlds of their own.⁸ With a keen sense of balance, denizens of the shore deftly straddled the gap between punt and pier, living not simply “on” coasts but “with” them, carefully and perhaps intuitively attuned to the wind, weather, and tide.⁹ So distinct was the littoral way of life that coastal communities often exhibited similarities regardless of their location.¹⁰ Theirs was an amphibious existence, lived on the edge and in between.¹¹

A deeper understanding of these littoral dynamics reveals the ways coastal cultures were often torn between two dominant epistemologies concerning the natural world. The first considered the ocean (and to some extent water in general) unchanging, eternal, and somehow exempt from human influence. The second believed that terrestrial land could be—and often must be—“improved.” It was the push and pull of these two conceptions of nature that shaped coastal space. At one end of the estuary lay dry land easily measured by the surveyor’s rod, and at the other, a trackless, eternal ocean that defied European understandings of ownership, jurisdiction, and even the passage of time. And somewhere in between, caught in the conceptual wrack that collects along the farthest reaches of the tide, lay European assumptions about the natural world. By reimaging an estuary in light of these ecological and cultural complexities, we can reconstruct littoral settlement and development, not as the opposition of English culture to pristine nature, but as spaces that were neither “wild” nor “civilized” in which people used nature and were shaped by it in return.

Yet, oceans and their estuarine arms have, until recently, been presented without attention to historical change.¹² As any sailor knows, the sea holds the ability to distort time and space, the principal currencies of the historian’s trade. Something so fundamental as “distance,” a function of speed, which is subject to so many outside variables on the surface of the sea, can only be measured with imprecision. Among the swirling currents and fluky winds so typical of coasts, time and space expand and contract, making littorals just as difficult to navigate for observers of the past as for contemporary captains. How then did coastal people bring coherence to such confusion? And what were the social and ecological ramifications of adding order to the unruliness of the ocean’s edge?

A closer look at the ways humans settled and meddled with the Atlantic world's coastal margins recovers an important piece of the living sea's history. Early modern expansion exacted a heavy toll on the coastal ocean.¹³ Fish, birds, and marine mammals were hit hard with simple technology.¹⁴ Among inshore waters, these changes to the sea were even more pronounced. Around Chesapeake Bay, for instance, English efforts to wring a living from the land caused such dramatic soil erosion during the seventeenth and eighteenth centuries that deepwater ports became impassable mudflats.¹⁵ Declining water quality, in turn, damaged fish stocks and human health.¹⁶ By probing both the historical record and muddy sediments long trapped beneath the Bay, scholars have pieced together traces of this ecological drama.¹⁷ Historians of early New England have done much the same, although their work has focused largely on the land.¹⁸ But a more careful examination of the ways coasts were constructed imaginatively and then modified materially adds a narrative of renewal to what has often been told as a tale of tragedy or inevitable decline.¹⁹

Careful focus on estuaries and the people who inhabited them also adds fresh perspective to the conventional narratives of Atlantic exploration and continental settlement. Littorals, after all, set the stage for colonial expansion. Smith, Cartier, Verrazano, and countless others spent considerable time reconnoitering Atlantic estuaries. Navigation expanded as knowledge of coastal features circulated.²⁰ At once confused and coherent, protected and connected, estuaries, in contrast to environments farther inland, provided reasonable safety while remaining highly accessible.²¹ Coastal margins provided sufficient stability to encourage investment but enough variability to create opportunity. As a result, trade funneled through littoral spaces, which became important points of interconnection where societies became firmly "entangled."²² Estuarine harbors bridged vast Atlantic and continental networks, the intricacies of which historians are only beginning to understand.²³ If Atlantic history has profited from the study of "middle grounds," it will surely benefit from a closer look at "muddy grounds," where interactions between Europeans and Native Americans were often vexed by the complexities of coastal space.²⁴

Among these marshy marchlands, littoral people set America in motion. Almost every voyage to the New World ended in an estuary. And

most settlers clung to their shores. As late as 1776, Adam Smith noted that America's English plantations were largely confined to the coast and banks of navigable rivers, having "scarce anywhere extended themselves to any considerable distance from both."²⁵ Among the nicks and notches of the sea, cities formed as their inhabitants, in a "deliberate and enduring dialogue" with the natural world, drew resources from and made modifications to their inland and estuarine hinterlands.²⁶ Material changes to this private-public interface shaped where and how people lived, which affected the coastal environment in return.²⁷ So demanding was the process of building infrastructure in Boston, for instance, that it forged a new relationship between humans and nature, one that helped to define what it meant to be "urban" in America.²⁸ In New York the transformation of littoral space was so profound that efforts to digitally reconstruct its ancient appearance have captured the popular imagination.²⁹

Harboring some of New England's earliest settlements during the seventeenth century and powering America's first industrial revolution at the end of the eighteenth, Narragansett Bay and the rivers that rolled into it set important precedents for coastal-human interactions. Among Indians and Europeans the eternal arms of the ocean often marked lines of social and political division. But at other times, the open, mutable nature of the estuary made it an important avenue of transportation and trade, a conduit for economic and cultural exchange. For slaves, the Bay's maze of tidal creeks and rivers often provided geographies of refuge. Pirates and privateers likewise sought cover among the estuary's innumerable coves. But mariners, their maps, and the "spatial forms and fantasies" they projected added order to the edge of the sea.³⁰ So too did scientific inquiry. When dam and canal builders began partitioning the upper reaches of the estuary, they transformed the shore like never before.

At the nexus of land and sea and the confluence of sweetwater and seawater, a host of political, legal, and cultural ambiguities were shaped by the tension between a desire to "improve" the land and a belief that the ocean was eternal. At times, the shores of Narragansett Bay were subdued. People living in the littoral caught fish, dug clams, and sent their animals out to graze its meadows. And their work changed the place. But at other times, the sea prevailed. Its ability to blur lines of ownership and notions of legality and to dissolve the spatial mechanisms of social

control often thwarted the impulse toward improvement. By tinkering with and adapting to this world in flux, Rhode Islanders continuously renegotiated their relationship with nature. Much more than a geologic formation or the passive recipient of human action, Narragansett Bay was a cultural construct, created and recreated by the people who lived near and worked on its waters. If the people of the Bay believed there was a boundary between them and the natural world, it was as porous as the sands along their shores.

But that, too, changed over time. As the population of Rhode Island rose and land and resources diminished, Anglo-Americans changed the Bay to meet their needs. They reorganized coastal space both literally and figuratively by harvesting shellfish, drawing maps, building beacons and forts, and fighting wars, among countless other undertakings, thereby changing a porous, inchoate coastal margin into a more clearly defined edge, or “coastline.”³¹ What had once been a sprawling, uninterrupted watershed, sustained as much by the push of its rivers as the pull of its tides, was summarily split in two. This newly bifurcated Bay, one in which the freshwater portion was imagined as separate from the salt, bolstered the belief that nature itself was separate from people and could be mastered by them. In turn, the engineers of the industrial age modified the Bay irrecoverably. They built a new edge for modern America, which made its coast less resilient, or less capable of absorbing the blows of human initiative and natural variation. And this had far-reaching environmental and social repercussions.

Beginning in 1636 with the first European settlement of Narragansett Bay and ending in 1849 with the final dissolution of the Blackstone Canal Company, which completely reconfigured the upper reaches of the Bay’s watershed, this book shows how people shaped and were shaped by the Bay as well as by the more distant shores across the Atlantic world. Our story begins with early European travelers who provided the first written visions of southern New England. Their encounters with Native Americans and the seventeenth-century wampum trade summarily transformed the estuary and the broader region. Home to some of the richest clam beds in southern New England, Narragansett Bay was an important

source of shell beads, produced largely from several kinds of whelks and the hard-shell clam, or quahog, *Mercenaria mercenaria*. Cut, polished, and drilled, these shells were assembled by the thousands into intricate belts and traded among Indians and Europeans, often across long distances into the continental interior. The value these groups placed on wampum—a marine animal mined from the sea—illuminates the ways in which Native American and European cultures perceived nature more broadly. Closely tied to its ecological origins at the intersection of improvable land and an eternal sea, wampum's value rested on its ability to forge physical, conceptual, and economic continuities between the ocean and inland environments. Accordingly, it hastened the extirpation of beaver. As beavers were killed, their dams were destroyed, and water that had once been impounded on the landscape rushed into the estuaries. In short, wampum, much of which was produced on the shores of Narragansett Bay, drove a trade that made the Northeast a drier place and, at least in small ways, affected the estuary in return. Long before widespread European settlement, a few traders and the hunters they hired began to change the estuary and the entire region. What had been a soggy coastal margin began to harden into an edge.

As the trade in wampum waned during the second half of the seventeenth century, the people of Rhode Island saw new opportunities among the Bay's grassy fringes. Long known for their ties to seafaring, Rhode Islanders took to the sea not because the land was too poor to farm but because the fruits of the shore sent them in search of markets.³² An important source of provisions for the Royal Navy and English merchant and fishing fleets, the rich coastal meadows of Narragansett Bay supported vast flocks of sheep and herds of cattle. But pastoral development led to Bay pollution. By the end of the seventeenth and beginning of the eighteenth centuries, Rhode Island's livestock had changed the Bay and nearby tidal lagoons. Animal waste led to algal blooms that, when combined with silt and sawdust, clogged waterways. In response to environmental issues, the colony, which had once been only a loose association of towns, began to pool resources toward large public works projects, many of which affected the Bay and its harbors either directly or indirectly. In some cases, livestock runoff chemically "improved" tidal ponds, while in others, the sea resisted human attempts to control

it. Nevertheless, by modifying meadows, carving passable channels, and redirecting rivers, the people of the Bay added new definition to the ocean's edge.

If exchanges between land and sea changed the Bay biologically, they also shaped the way people perceived it. The watery nature of the estuary blurred geographic boundaries, forcing Rhode Islanders to continually fend off the territorial advances of outsiders. When in 1741 Rhode Island and Massachusetts went to court to decide the former's eastern boundary, which was legally defined in relation to Bay waters, the ability to "place" the Bay was of utmost importance. But bounding littoral space proved difficult. Court commissioners called scores of deponents to explain how they understood Narragansett Bay and its surrounding lands. Their testimonies revealed the extent to which littoral space was shaped, not geologically, but through expressions of political allegiance, the desire for economic opportunity, and interactions between the metropole (London) and colonial periphery. Narragansett Bay was a deeply human construct. And its borders, which had become more clearly defined than ever before, were established by way of testimony showing that the Bay was improvable space.

As the contest of coastal boundaries came to a close, the people of Narragansett Bay began to reevaluate coastal nature in light of more rational, scientific modes of thought. Rhode Island's coastal climate and daily weather drew considerable commentary. For some, atmospheric anomalies remained proof of God's enduring presence. But for others, the sky was a palette for human progress, a space shaped increasingly through careful observation and systematic notation. While Rhode Island's weather watchers organized the skies, others gazed deeply into Narragansett Bay's waters. The desire for natural knowledge about the Bay's biology led the Rhode Island General Assembly to enter protracted debate over the "nature" of Bay oysters during the first half of the eighteenth century. Attempts to classify tidal creatures, however, were often complicated by the complex ecology of the estuary itself. That oysters were planted and harvested like vegetables, pickled and eaten as animals, and often mined from the seabed as minerals (for producing lime) made them difficult to pin down. Placed within the wider context of eighteenth-century philosophical discussions about the "nature" of

aquatic creatures such as mollusks and polyps, the debate on the Bay highlights some of the forces that shaped natural knowledge. In many ways, this attempt to classify the Bay's biology mirrored the wider efforts toward scientific and social improvement that came to define the age of enlightenment. As Rhode Islanders organized the Bay intellectually, they also increased their ability to modify it materially. As a result, the contours of the coast continued to change.

The most powerful forces of progress on Narragansett Bay during the eighteenth century were commercial expansion and war. The construction of coastal beacons, which projected light over long distances, extended control over littoral space. Stone forts equipped with long-range cannons also added order to the estuary and its most important harbors. Detailed maps of Narragansett Bay published by the English and reproduced by the French during the American War for Independence similarly served to organize littoral space. But in Newport and across Aquidneck Island, it was the guns, saws, and shovels of war that most dramatically reconfigured the coast. What had been the "Garden of New England" at the beginning of the eighteenth century was a wasteland by its end. The Bay had assumed new and more permanent shapes and roles to accord with shifting times.

But even more profound ecological changes would grip the upper reaches of the Bay watershed during the nineteenth century. As the birthplace of America's first industrial revolution, the Blackstone River played host to a series of pitched legal battles that, in the name of progress, saw the erosion of traditional ideas about access to natural resources—in most cases, river fish. The creation of the Blackstone Canal Company affirmed this trend toward the privatization of water. Upon opening in 1828, the forty-five-mile canal connecting Providence and Worcester sought to extend littoral space deep into the New England interior. Such an ambitious undertaking required a highly complex and incredibly expensive network of holding ponds and dams for managing the flow of water into the canal and over mill waterwheels. The Canal Company turned the Blackstone River watershed into an engineered system. But when the Canal Company failed, so too did its carefully managed network of ponds, dams, and diversions. So important had the corporation become to the movement of water that the Rhode Island state legislature