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# Locating Boston's Place in Environmental History

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If the 1970s were, as historians are fond of labeling it, the “environmental decade,” then the first decade of the twenty-first century can safely be called the “environmental history decade.” During these years, the field experienced a remarkable growth and maturation, emerging from its roots in western and rural studies to become one of the most dynamic and wide-ranging fields of study in the profession. Nowhere has this been more evident than in urban studies and planning history, where, as demonstrated by the number of panels on environmental topics at recent meetings of the Urban History Association and the Society for American City and Regional Planning History, some of the most promising scholarship of recent years has been concerned with humans’ impact on and relationship with urban environments, and has pioneered new understandings of what an influential collection of essays on the subject labeled “the nature of cities.”<sup>1</sup>

The works on the history of Boston under review were both a product of and a participant in this broader reconsideration of the place of the city in environmental history. By 1998, when Sarah Elkind’s *Bay Cities and Water Politics* was published, the artificial divide separating city from countryside (and urban from environmental, implicitly rural, studies) had long been breached, most prominently by

William Cronon in his celebrated study of Chicago, *Nature's Metropolis*.<sup>2</sup> So thoroughly had the city invaded the countryside that by the early 2000s, some scholars began noting a troubling trend toward placing the city at the center of American environmental history, with the surrounding hinterlands assuming a subordinate and peripheral position that often replicated the status often accorded them by urbanites at the time. Today, the question of how cities both reflected and influenced environmental change on a broader scale remains a subject of vigorous debate and dynamic research. And in this respect, Boston's environmental history has much to teach those interested in understanding the power relations that underlie ecological relationships, and more fundamentally, the power of place in determining human–environmental interactions.

To the scores of tourists who flock there each year, Boston appears as the most historic of American cities, a place that prides itself on preserving its past. Yet, few cities have undergone such a profound physical transformation over its history than Boston, from the filling in of the Back Bay in the second half of the nineteenth century to the completion of Big Dig in the early 2000s, which subsumed an entire urban highway system underground and turned hundreds of acres of formerly paved lands into green spaces. And few cities have pioneered more innovative and influential feats in environmental planning, while also being a frequent poster-child for urban environmental degradation. Just as the city's climatic extremes (wetter than Seattle, windier than Chicago, and hotter in July than San Diego) defy facile generalizations, so too does its environmental history. Which, as these works collectively demonstrate, should offer a timely reminder to all scholars of planning, urban, and environmental history that while regional distinctions often break down upon closer analysis, place *still* matters, no more so than in social-environmental relations.

Michael Rawson begins *Eden on the Charles*, a probing inquiry into the ways eighteenth- and nineteenth-century Bostonians' interacted with and understood nature, at the Boston Common. English settlers brought the ideal of common land, enshrined in English common law, with them to New England. In Boston, settlers designated an area of the Shawmut Peninsula—the original area of settlement—as common property. From the outset, the ideal of public space coexisted uneasily alongside the desire to privatize and capitalize on what was seen as increasingly valuable land, especially as the town's population grew during the colonial period. Yet into the early nineteenth century, the Boston Common remained just that—common—and supported a variety of productive and leisurely activities. While some Bostonians ventured to the Common to stroll, celebrate, protest, or brawl, others came to dig clay and stone from the Common's soil, remove stones to construct buildings, and allow their cattle to graze. Women drew water from Frog Pond to wash clothes, while others cleaned carpets. In this respect, the Common, Rawson contends, held a mirror on American life, in particular, the overlapping of labor and leisure in the daily lives of individuals and on the land itself.

Beginning in the late 1700s, wealthy families began building homes on the park's far edge. The area's desirability was enhanced in 1795, when the legislature selected a site on Beacon Hill for the new state house. As the borders of the Common became populated by Boston's gentility, the use of the Common for production and extraction fell under more stringent regulation, while its dedication strictly for leisure and recreation became established. In order to achieve the spatial segregation of labor and leisure, and the dedication of the Common for upper-class leisure, Rawson contends, the ideas first had to be made manifest in Bostonians' social and spatial imaginary. During this period, visual representations that depicted the Common as a bucolic country estate proliferated. Absent from these scenes were those people and animals who worked and grazed on the land. In 1822, Bostonians approved the formation of

a city government that replaced the decentralized town meeting system. Following incorporation, the new city's elite successfully enacted a series of regulations and aesthetic improvements that, taken as a whole, aimed to remove pasturage and other "nuisances" from the Common and enhance its leisure value—and the value of surrounding real estate.

To the list of Boston's "firsts," we might add the flight of the privileged and their tax dollars from the urban core. More than a century before "white flight" transformed American metropolises and crippled city budgets, Boston saw its tax base shrink considerably as the rich migrated to neighboring municipalities that offered lower tax rates and more class homogenous populations. Freedom from the unpleasant environmental conditions associated with the city was synonymous with freedom from poor people. As this trickle threatened to become a flood, Boston embarked on an aggressive annexation campaign that netted the city the towns of Roxbury (1867) and West Roxbury (1873). Annexation succeeded, Rawson argues, because it offered these rural communities access to public services such as water and sewage otherwise unavailable, or in a vastly inferior form. The city's expansionist vision died in the town of Brookline, where voters rejected several annexation referendums, the last coming in 1880. By then, Brookline had developed its own comparable urban amenities, lessening the incentive for residents to choose annexation and allowing it to retain its "nonurban character." Brookline's successful defense against annexation marked not simply the high-water mark for Boston's physical growth (which remains, to this day, virtually unchanged) but, as Rawson points out, "signaled the beginning of a national movement away from urban consolidation" and toward a more class segregated metropolitan landscape (p. 176).

In a fascinating and important contribution to the edited collection *Remaking Boston*, William B. Meyer shows how the city's topography shaped land use patterns and power relations. Despite being called the "city upon a hill," prior to the introduction of streetcars and railroads, Boston's hills were places to be avoided and, when possible, flattened. To live on a hill in early nineteenth-century Boston was to live on the margins of society, often surrounded by gunpowder plants, glue factories, gasworks, and other nuisances. A person's position in society could, quite often, be measured by the question: "How high did you have to climb to get home?" There was a high cost and low reward to living up high. It was more expensive to transport goods up hills. It was difficult to get water piped up. Commerce was minimal, and above a 100-foot elevation mark, there was a near total absence of business. An institution for the blind was located atop one of South Boston's upper slopes; ironically, it enjoyed, as Charles Dickens commented, one of the finest views in the city. Irish refugees from the potato famines settled in the Fort Hill area, which by 1850 had become the densest area of Irish settlement in the city. Likewise, the largest concentration of African Americans could be found on the north (i.e., shady) side of Beacon Hill. High above the city, poverty and vice were prevalent, as was the prospect of being leveled and displaced. Following a fire that swept through the Fort Hill district in 1852 causing extensive damage, public officials rushed to capitalize on the disaster, passing legislation that authorized the newly chartered Fort Hill Corporation to begin the process of removing the hill, along with its inhabitants, from the area. As the project neared completion, one newspaper reported that the formerly low-value property "will soon be down to a respectable and profitable level" (p. 140). The transformation of the city's highlands from liabilities to assets, he argues, "illustrates how 'natural resources' and their opposites, physical features that people assess as worthless or worse, are not given facts but historical creations" (p. 128).

Almost as soon as English settlers landed in what became Boston, they commenced a centuries-long project of land making that continues to this day. Early efforts to add to the Shawmut Peninsula's tiny footprint were rudimentary and uncoordinated, to say the least, with owners of waterfront property dumping dirt, gravel, and ashes onto marshy flats so as to expand their real estate holdings. In the early republic, Bostonians made land at a rapid pace. Lack of regulations and a general belief that such measure had no effect on the harbor's ecology allowed individuals, real estate developers, and, most importantly, railroad companies, to make land at will.

The same motives that drove Bostonians to make land and maximize its productive capacity also contributed to a rapid loss of land in the city's harbor. When vessels entered Boston's Harbor in the early nineteenth century, they navigated through a maze of islands and along a series of circuitous channels. This "complex convergence of land and sea," as Rawson characterizes the harbor, protected the city from the furies of the Atlantic and allowed it to become a major commercial port in the Atlantic world. Beginning around the 1830s, that defense mechanism began to, quite literally, disappear, as intensive resource extraction on many of the harbor islands set in motion a process of erosion and rapid loss of acreage, and created hazardous shoals for passing vessels. Some islands disappeared entirely.

Changes in the harbor's ecology mirrored changes in the region's economy—and Boston's place in the nation's economy. Following the completion of the Erie Canal in 1825, Boston's status as a leader in Atlantic commerce declined as New York's rose. As the canal made the flat, fertile plains of the Midwest accessible to eastern markets, and as railroads shipped cheap grains grown in the Midwest to the Northeast, farmers in the Massachusetts's interior, where self-sufficient farming had long predominated, turned toward the production of perishable goods such as fruits, vegetables, and dairy, for Northeastern markets, and allowed acres that once grew grain to return to nature. During a period when the city's population boomed, milk became a dietary staple for many Bostonians, fueling demand and leading to the concentration of farming in New England along the railroad lines leading into Boston. As David Soll points out in his essay on reforestation in Norfolk County, Massachusetts, in *Remaking Boston*, the "interregional dynamic between the Midwest and Northeast" that took shape during these years transformed Massachusetts's rural landscape, contributing to a considerable reduction in the acreage of farms, and the subsequent reforestation of New England. What prior historians had mistakenly labeled as farm abandonment, he argues, was instead a more dynamic process of reorientation and consolidation. Rail lines, Soll adds, also allowed the inhabitants of the scattered small towns along these routes to seek work in the city, and conversely, made living and doing business in the country more feasible. Together, they contributed to the steady transformation of rural lands from agricultural to business and residential use.

"[C]ities," Michael Dawson notes in his essay, "What Lies Beneath" in *Remaking Boston*, do not "stop at the water's edge." Whereas too often "the land disappears as a topic of study when it disappears beneath the waves," Dawson dives to the bottom of Boston's harbor and uncovers a vast, dynamic, and powerfully influential force in shaping the city's spatiality and ecosystems (p. 34). Holding a mirror to the society it surrounded, the harbor became a laboratory for scientific thought and testament to the practical impact of flawed theories of the past. In the early 1800s Boston, the city searched for an explanation of the harbor's deterioration. The theory of tidal scour gained the most adherents. The scouring force of waters that moved in and out of the rivers and tidal reservoirs, tidal scour theorists argued, created the harbor and maintained the depth of its channels. The speed of the outgoing water determined the channels' depth. By filling in flats, they contended, landmakers reduced the amount of

water entering and leaving the harbor, leading to shoaling and erosion. The solution, they argued, was to stop making land. While a beleaguered maritime community embraced the theory of tidal scour, it was derided and denounced by railroad and real estate interests vested in the continual expansion of the city's footprint. The debate, as Rawson notes, crystallized two oppositional views of nature—one sensitive to its fragile equilibrium, the other guided by a belief in the ability of technology to overcome any obstacles and dedicated to the utilization of science as a weapon in shaping nature's course. In the 1860s, a series of scientific studies discredited the theory of tidal scour and discounted the effects of land making on the harbor's depth, which in turn led to a frenzy of flat-filling and led to the adoption of channel dredging as a permanent solution for maintaining transportation routes, a model of harbor management that port cities around the world would come to embrace.

Nowhere was Boston's influential role in the history of urban planning and design in America more evident than in its development of public water and waste services. In early nineteenth-century Boston, as in other cities, access to clean water and freedom from exposure to polluted water was more a privilege than a municipal function. The state legislature granted charters to private companies to meet the immediate needs of a given area of the city, invariably, one whose residents possessed the resources to make it a profitable venture. This led to a hodgepodge of intersecting and uncoordinated water systems that, as the city grew, served no one well. The demonstrated incapacity of private companies to service the water and sewage needs of a growing city, Sarah S. Elkind, in her study *Bay Cities and Water Politics*, argues, forced Bostonians to more fundamentally reevaluate the proper role of government and the private sector in the management of natural resources, and gave credence to social reformers' arguments that clean water promoted a more upright, healthy, and sober populace, and was a basic right that should not be placed on the open market. Boston led the way in fashioning public solutions to water and waste services, first in 1846, when the state legislature authorized a municipal water system, and then in 1889, when it formed the Metropolitan District Commission (MDC), the first regional water and waste body.

Boston was also the first city to treat public parks as a regional issue. The creation of the Metropolitan Park Commission (MPC) in 1893 and its campaign to preserve open land throughout the city could not have come at a more opportune time, James C. O'Connell points out in his contribution to *Remaking Boston*. It came as Americans embraced outdoor recreation in growing numbers, as a growing chorus of Progressive reformers championed the social and therapeutic benefits of the "strenuous life," and, perhaps more importantly, as undeveloped urban lands were still in relative supply. Within ten years after its founding, the MPC had acquired a remarkable 9,177 acres of reservations, thirteen miles of oceanfront, fifty-six miles of riverbanks, and had built seven parkways at a total cost of \$6.5 million, all of it financed by low-interest state-issued bonds. Boston's metropolitan parks system became a model of successful park design and civic improvement that cities across the nation and around the world sought to emulate.

The rise of regionalism, Elkind concludes, made the exponential growth and economic prosperity of cities possible; it also profoundly, and for the most part, negatively, transformed rural America. In Boston, as in the nation, Progressive era reformers also worked to ensure that these new agencies would remain immune from corruption and an uninformed public by placing its administration in the hands of appointed experts. As Elkind shows in her comparative study of the politics and administration of water in Boston and Oakland, the establishment of public water works was part of a broader transfer of power in early twentieth-century metropolises from urban political machines to a new class of

bureaucrats and technocrats. Her book tells the story of the growing authority and responsibility of the state toward the administration, distribution, and protection of natural resources over the course of the twentieth century. She also examines the differential effects of regionalism—as both a concept and a set of governing practices—on different segments of a given region. In both Boston and Oakland, regional authorities rolled into rural areas like a tornado, wresting control over local resources, trampling over private property rights, and bringing with them armies of low-paid immigrant workers to construct and maintain public works facilities that were both highly visible and unaccountable to local authority. But while rural communities steadily grew distrustful of centralized forms of governance, in Boston and other Progressive-era cities, regionalism was, in the short run, hailed as an unalloyed success. Public water and waste systems were both reliable and efficient, and its administrators were seen as both competent and immune to corruption.

After having spent much of the nineteenth century pioneering new techniques and new policies for governing nature and putting it to work for urban populations and economies, Boston was, at century's end, a "finished" city.<sup>3</sup> The city had established a public works infrastructure and public parks system that was the envy of other cities. It stood out as an oasis of cleanliness and efficiency on urban America's polluted, corrupt, and chaotic landscape and, as Rawson concludes in his excellent study, came to serve as a model of the "power of government in structuring newly emerging environmental relationships" (p. 279).

In making his case for Boston's contributions to the making of the modern city, Rawson was wise to end at the turn of the twentieth century. For in the century that followed, the city sunk into a deep slumber, reluctant to innovate and increasingly incapable of addressing a growing set of social, economic, and environmental crises that would, by the late 1970s and early 1980s, nearly bring the city to its knees. Two events that took place in the 1980s stand out, and frame the opening chapters of Charles M. Haar's riveting and meticulous chronicle of Boston Harbor's environmental degradation and road to recovery. The first occurred on an autumn morning in 1982. William B. Golden, the city solicitor for the town of Quincy and also its state representative, was jogging along the town's beach when he became overwhelmed by the stench of waste. He looked around and discovered human feces, condoms, decaying meat, and other garbage strewn along the shore. When a meeting with Governor Michael Dukakis, who was consumed with the challenge of reversing the state's economic tailspin, to discuss the harbor's dire condition proved unsatisfactory, Golden led the town of Quincy to file a complaint against the MDC and the Boston Water and Sewer Commission (BWSC) in the Superior Court of Norfolk County. The complaint alleged a continuous pollution of the Boston Harbor due to the systemic failure of wastewater treatment plants located on two of the harbor's islands. The second political crisis occurred in the heat of Dukakis's unsuccessful campaign for the Presidency in 1988, when his opponent, George H. W. Bush, gave a speech aboard an excursion boat in the middle of Boston Harbor that assailed the governor for his gross negligence on environmental issues. Boston Harbor, the birthplace of the nation and a "veritable theater of American history," had become, Bush charged, "the harbor of shame."<sup>4</sup>

But while these events made headlines, another, less publicized encounter, better captured the source and extent of the city's environmental crisis. Sometime in the late 1980s, the Smithsonian Institution contacted the MDC and inquired about obtaining one of the original wastewater pumps that had been in operation when the city established the nation's first public metropolitan wastewater treatment plant a century ago. The request was turned down, because the pump was still in use!<sup>5</sup>

The MDC's undoing, Elkind suggests, can be traced back to the sources of its earlier success. The MDC proved very successful in delivery of water and waste services to the early twentieth-century city; so good, in fact, that Boston grew in population far beyond the regional authority's capacity. The city's Progressive era planners failed to plan for long-term sustainability, and failed to foresee or appreciate the overall ecological impact of an expansive regional infrastructure. As the devastating effects of MDC policies on rivers, marshes, and bays became clear, and as water shortages grew in frequency and a steady stream of raw sewage spilled into the harbor, Bostonians grew wary of an agency that seemed unwilling or incapable of making necessary improvements to an aged and broken system.

Enter Judge Paul Garrity, chief justice of the Massachusetts Supreme Court, who presided over the town of Quincy's lawsuit against the MDC in the Norfolk County Superior Court. The quintessential "activist" judge, Garrity was unafraid to test bold and innovative legal strategies, and confident in the power of the judiciary to solve thorny, seemingly intractable problems. In 1983, Garrity appointed Charles M. Haar special master in the case of *Quincy v. MDC* and gave him sweeping powers to investigate the source and extent of the harbor's pollution and to recommend remedies. In *Mastering Boston Harbor*, Haar unpacks the political, environmental, financial, and technological interests at stake, and details the extensive investigative work that went into the drafting of his report on the causes of harbor pollution and possible solutions. What emerges from his findings is a clear sense that the regulatory bodies created a century ago by Progressive reformers had, over the course of the twentieth century, steadily ceded their regulatory power to agencies and elected officials invested in maintaining the status quo, and that only innovative interpretations of the law could save the harbor. In this respect, Garrity's unprecedented use of the judiciary's power to compel legislative and executive action, echoes the creative reshuffling of power and authority that characterized governance in the Progressive era city. And indeed, Haar wants *Quincy* to become a model for future judicial intervention into environmental crises that elected bodies have proved incapable of solving. Garrity's deft use of the judiciary to clean up the harbor, Haar concludes, demonstrates the interdependence of the three branches of government, and the benefits of what critics might deride as "judicial activism." Indeed, without Garrity's actions, the harbor would have continued to die a slow death. *Mastering Boston's Harbor* provides readers with the story of one of the most groundbreaking and consequential cases in modern environmental law, and reminds us that immediate measures can be taken to reverse the destruction of natural resources, but only if we begin to reassess existing legal and regulatory frameworks.

The studies under review have relevance far beyond the fields of urban and environmental history. The Boston metropolitan area has become an important site for scientific research on climate change. Because of the rich body of naturalist studies conducted in the area over the past centuries and the region's seasonal variability, Boston has yielded some of the best evidence of the extent and effects of climate change. The pioneering research conducted by Abraham J. Miller-Rushing and Richard B. Primack, a portion of which is included in *Remaking Boston*, contributes to this body of work. Similarly, the history of landmaking in the city, which Nancy S. Seasholes's book *Gaining Ground* documents in rich and meticulous detail, not only attracts the interests of geographers and engineers but also judges and litigators. As Stephen T. Mague, in his contribution to *Remaking Boston*, notes, determining the location of past shorelines can determine how courts decide where public rights to shorelines end and private property rights begin. Using cartographic analysis, Mague traces the original outline of the Shawmut Peninsula upon settlement.

Seasholes offers readers a comprehensive history of the city's centuries-long thirst for more land. Following an informative chapter on the changing technology used to make land in Boston, Seasholes then details landmaking in each area of the city, describing the historical context and short- and long-term implications of each land addition for the neighborhood and the city as a whole. Historical maps and photos are liberally strewn throughout the text, providing nonspecialists with the tools to visualize the physical changes Seasholes describes. From this ground-level, spatially oriented approach to the city's history, Seasholes not only demonstrates the central role of "landmaking" planners and engineers in laying the groundwork—quite literally—for the city's social, political, and economic development over the past two centuries, but also offers a fresh perspective on the metropolis-as-growth machine paradigm in which economic and physical growth are understood as entwined and fraught with profound environmental consequences that are only dimly understood or appreciated at the time. In a timely afterword, Seasholes points out that the extent of landmaking in Boston has rendered the city acutely vulnerable to environmental catastrophes such as earthquakes (the region contains as many geological faults as California) while forcing the city to wage an endless battle against falling groundwater levels and rotting foundations. Ironically, it was the relative ease with which past generations could make land in Boston (by filling in shallow tidal flats) that fueled the city's physical growth, wove a growth-oriented ethos into the city's social and political fabric, and, today, pose environmental challenges that defy any easy solutions.

From its founding, Boston has been a virtual theater in the unfolding drama of American history. Just as the city itself inspired important developments in urban environmental planning, these works will surely influence scholarship on urban environmental scholarship for years to come. Taken as a whole, they powerfully demonstrate that the making of cities is fundamentally an exercise in environmental engineering, and one in which human ambitions are beholden to the limits of nature, even as those limitations and liabilities are distributed unevenly among human populations. By examining the specific impacts of growth and development on a particular ecosystem, they provide the tools through which we can assess the broader ecological implications of urbanization on a global scale. And, by drawing attention to the unique environmental conditions and relationships that made Boston what it is today (and will ultimately shape its future), these works remind us that, even as the field expands in scope and complexity, the finest future scholarship on the history of planning and nature (and planning around nature) are those that remain firmly grounded in place.

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#### Notes

1. Andrew C. Isenberg, ed., *The Nature of Cities* (Rochester, 2006).
2. William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York, 1991).
3. Rawson, *Eden on the Charles*, 277.
4. Haar, *Mastering Boston Harbor*, 1–2.
5. *Ibid.*, 53.