FLOWING POWER: RIVERS, ENERGY, AND THE REMAKING OF COLONIAL NEW ENGLAND

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ABSTRACT OF THE DISSERTATION

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This dissertation considers how river energy was a source of authority in colonial New England. The caloric, kinetic, and mechanical energy people derived from rivers was necessary for survival in New England's forbidding environment. During the initial stages of colonization, both Europeans and Indians struggled to secure strategic positions on waterways because they were the only routes capable of accommodating trade from the coast to the interior. European and Native peoples came into conflict by the late seventeenth century as they overextended the resource base. Exerting dominion in the ensuing wars on New England's frontiers was directly tied to securing strategic river spaces since the masters of these places determined the flow of communication and food for the surrounding territory. Following British military conquest, colonists aggressively dammed rivers to satisfy the energy demands of their growing population. These dams eviscerated fish runs, shunting access to waterpower away from Native Americans and yeoman farmers. The transformation of New England's hydrology was a critical factor in the dispossession indigenous peoples before the Revolution and essential in laying the legal groundwork for the region's industrial future. This project shows that the groups which controlled waterpower drove the changes which reorganized the environment along a Native American, colonial, and finally industrial capitalist sense of natural order.

Contents

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The staff at libraries and archives I consulted were generous with their time and patient fielding my questions. Many of the primary sources in this dissertation were collected, transcribed, and published by nineteenth-century documentary editors. In the last few years, people have digitized these editions, many of which are freely available online. The collective labor of these people and organizations, usually anonymous and unseen, made it possible for me to write a dissertation of this scope under the penurious conditions of graduate school. Portions of chapters three and four appeared in the December 2017 issue of *The New England Quarterly*.

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Abbreviations

AR	*Acts and Resolves, Public and Private, of the Province of the Massachusetts Bay*. 29 vols. Boston, 1869–1918.
CSP	*Calendar of State Papers, Colonial Series, America and the West Indies*. 30 vols. London: His Majesty's Stationary Office, 1860–1939.
CMeHS	*Collections of the Maine Historical Society*. 3 series. Portland: Maine Historical Society, 1865–1903.
CMassHS	*Collections of the Massachusetts Historical Society*. 7 series. Boston: Massachusetts Historical Society, 1792–1939.
CA	Connecticut Archives, Connecticut State Library, Hartford.
DHSM	*Documentary History of the State of Maine*. 24 vols. Portland: Maine Historical Society, 1900–1916.
NYCD	*Documents Relative to the Colonial History of the State of New York*. 15 vols. Albany, N. Y.: Weed Parsons and Co., 1856–1887.
MA	Massachusetts Archive Series, Massachusetts State Archives, Boston.
MEA	Maine State Archives, Augusta.
MHJ	*Journals of the House of Representatives of Massachusetts*. 55 vols. Boston: Massachusetts Historical Society, 1919–1990.
OCHS	Proprietors Books, Old Colony Historical Society, Taunton, Mass.

PRCC	*Public Records of the Colony of Connecticut*. 15 vols. Hartford, 1850–1890.

Introduction

On America's east coast, people tend to cross rivers rather than follow them. The waterways that first beckoned colonists into the North American continent or powered the mills which kickstarted the industrial revolution lie obscured under highways, blocked by fences, and largely forgotten. People are more likely to experience rivers indirectly through their proximate impact on the landscape: abandoned brick mill buildings, the putrid stench of the few remaining paper factories, or long bridges spanning gaping chasms scattered every few miles. Although overlooked, that these rivers still course through the center of almost every major city on the eastern seaboard bears burbling testimony to their former centrality in American life.

If one pauses to look at any of New England's major waterfalls and read the material legacy at these sites, they will generally see a variety of structures which speak to a very active history. A palimpsest of dams, fish ladders, and shuttered industrial building showcase people's evolving interactions with waterways in the last four centuries. To take just a single example, the Saco Falls in Biddeford, Maine possesses this trinity of a dam, fish ladder, and brick mill buildings hulking over the site. The Saco River smacks into dams that diverts water into sluices and through turbines which now generate electricity. Once upon a time those thrumming waterwheels powered looms and employed thousands. During the colonial period, the Saco's waterpower drove sawmills that transformed surrounding timber stands into lumber for buildings and turned massive stones which pummeled farmers'

Figure 1 A new quarter dollar commemorating Lowell, Massachusetts' seminal role in America's industrial revolution does not depict the Merrimack River's Pawtucket Falls, the energy source that predicated the town's existence.

grain into flour. The fish ladder that escorts the Saco's much diminished migratory fish populations around the dam makes visible to humans the underwater activity which people for thousands of years trapped in nets or corralled in stone weirs. The past at these falls sites survives in less visible ways as well. A plaque out of sight of the Saco Falls but within earshot of its crashing water tells of a fort the English built in 1693 "as a refuge from the Indians." Saco itself is a Wabanaki word meaning "land where the river comes out" and is an audible legacy of indigenous presence, even though the most of the people who roll the sound of the place over their tongue are ignorant of its meaning. Major waterfall sites in New England like the Saco Falls share most, if not all of these material and audible legacies of dams, fish ladders, old mill buildings, plaques, and Algonquian words describing a rich history at these sites.

What explains all of this human activity around a waterfall? The simple answer is that people treasured the energy they could access in river water. Before the advent of coal-powered trains, the kinetic surge of a waterway was the preferred means of conveyance for long and short distances since floating on a river took much less effort than walking, especially if carrying a load. Alluvial soil required little fertilization for agriculture since river water carried and continually deposited nutrient-rich silt. If the river eventually fell into the ocean, one could count on millions of migrating anadromous fish climbing the rivers to spawning grounds each spring and summer. With baskets and dip nets even small children captured this wriggling food source rich in fat and protein. Finally, plopping a millwheel in a river animated gears that completed the necessary tasks of sawing lumber, milling grain, or making cloth. The first building in a colonial enterprise in New England was almost always a river-powered mill, around which a web of trails converged and a community took root. Preindustrial people valued the manifold kinetic, caloric, and mechanical valences of a river's labor-saving waterpower. They attested to this in words

such as “advantage, “benefit,” or “convenience,” all of which described the importance of relationship to rivers. Rivers mattered in early Americans’ lives because it made survival much more attainable. In the barren, frigid environs of New England, rivers made survival possible.

The Saco Falls are not alone in having historical markers commemorating violence along river sites. These plaques denoting the location of forts or battles are an indication that access to river spaces was contested. Native Americans and later colonists remade rivers with weirs and dams to effectively cull a river’s energy. They also policed strategic portages to control the flow of trade and information. In the seventeenth century, Native Americans and European colonists had conflicting visions of what society—and rivers should look like. This struggle to define the nature of rivers determined the nature of New England society itself. As this dissertation will show, humans’ changing relationship with rivers became a catalyst for the environmental, social, and political shape of the entire region. Those who controlled river spaces dictated the consumption of the region’s resources as well as which direction those resources flowed to. In colonial New England, going to a waterfall and seeing who was there—whether it was someone spearing a fish or feeding a sawmill would have told you about the nature of authority on surrounding land.

People conventionally think of a river as a column of water that cuts through the landscape, but there is much more to a river than what meets the human eye or what appears on a map. Rivers are just one phase in the water cycle. The sun, the source of all earth’s energy, drives this process. First heat evaporates water on the earth’s surface that accumulates in clouds. Winds, also created by the sun’s heat, push clouds and transport water thousands of miles where it eventually falls as precipitation. Instead of thinking of rivers as a line on a map separating

land from water, it may be more useful to conceive them as "wetness" where wind and water converge in the sky. Depending on where the water drops, it either freezes, sinks beneath the earth's surface, or coalesces in rivulets. All of this water, through melting ice, underwater springs, or streams, fall into rivers that eventually drain into large standing bodies of water where the sun's heat starts the process anew. Rather than simply a visible line of water, rivers are an accumulation of disparate forces spanning thousands of miles. Through the vehicle of water, rivers are the physical meeting of ocean, mountain, lowland, and subterranean spaces.[1]

Water is a dynamic substance that changes form, pushes, pulls, traps, and hosts. Despite its mutable nature, water's motives in a river are consistent. In their journey from mountainous areas to the ocean, rivers seek what hydrologists call a dynamic equilibrium by balancing its width, depth, velocity, and sediment load. When rivers encounter obstacles or shifting geology their velocity changes until it regains constancy. Since a river's volume changes seasonally, so does its erosive power. Although rivers often seem chaotic to humans when they spill over their banks or dramatically alter their course, these phenomena are examples of a river striving to balance the energy inhered in its waters with *terra firma*. Rivers are a process of land and water and their tendency toward equilibrium or balance permeates the nature of rivers from deep within the shifting velocity of its channel to its twisting banks.[2]

A natural river distributes energy diffusely, or along its entire course. This energy moves in opposite vectors and exists in both wave and particulate forms. The downstream vector begins when water converges in mountainous areas and erodes earth. Rivers carry grimy detritus called

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[1] "This wetness does not flow as rivers do; instead it is held for varying extents of time ranging from seconds and minutes to centuries and eons in soils, aquifers, glaciers, snowfields…This is not water draining to the sea; it is rather rain moving in complex, field-like ways. This is also not water with a source in points on high ground; it is rather rain with a source in clouds." Dilip D. Cunha, *The Invention of Rivers: Alexander's Eye and Ganga's Descent* (Philadelphia: University of Pennsylvania Press, 2019), 10–11.

[2] J. David Allan, María M. Castillo, *Stream Ecology: Structure and Function of Moving Waters* (Dordrecht, Neth.: Springer, 2007), 41–60.

silt downstream where it is gradually deposited along its course, revitalizing the soil. Fish represent the opposite vector of energy as they ascend upstream each year from the ocean to spawning grounds. Originally born in these rivers, these fish grow to adulthood by feeding on the variety of infinitesimally small food sources found far beyond the ocean's horizon. When they return to their natal rivers, they physically transport energy otherwise accessible only to deep sea creatures to inland areas. These fish carcasses nourish flora and fauna as either food or fertilizer along the many miles of a river they climb. Ecologists have called these yearly fish spawning runs as "world's largest flux of energy caused by a migrating population."[3] Rivers collapse space by bringing life-giving resources from distant places into easily accessible spaces.

The diffuse nature of river energy would be upset during the colonization of the Americas as peoples of different cultural backgrounds and notions of natural order sought to coexist in close proximity. In the region that would eventually be called New England, Native Americans found that following the seasonal rhythms of the environment best fit their mobile political economy. Wabanaki and Ninnimissinuok beliefs in connection and reciprocity with the environment jived with rivers' ability to distribute resources widely and evenly across space. European colonizers came to New England with a different cultural perspective on what the environment should look like. Following the Judeo-Christian belief that nature should serve the interests of man, they commodified and extracted resources for export in distant Atlantic markets and leveled forests for intensive agriculture. These contrasting visions of natural order did not just run along racial lines since disagreements arose within colonial and indigenous communities

[3] Øystein Varpe, Øyvind Fiksen, and Aril Slotte, "Meta-ecosystems and biological energy transport from ocean to coast: the ecological importance of herring migration," *Oecologia* 146 (Dec. 2005): 443; Steven Mattocks, Carolyn J. Hall, and Adrian Jordaan, "Damming, Lost Connectivity, and the Historical Role of Anadromous Fish in Freshwater Ecosystem Dynamics," *Bioscience* 67, no. 8 (2017): 723–24.

as well. Some Native Americans practiced a more extractive relationship to nature as they became entangled in Atlantic markets. Likewise, many colonists valued sustainable farming practices because it preserved their livelihoods on small farms and concomitantly their "competency," or economic autonomy. Seventeenth and eighteenth-century New England peoples inhabited a world of competing visions of natural order. This discord produced a world of perpetual environmental disruption.[4]

Rivers ran at the literal and metaphorical center of these conflicting visions of natural order in New England. The region's many waterways tethered people, often living very distant from each other, to the same system rendering coexistence or confrontation inescapable. People who engaged in sustainable practices depended on the diffuse range of a river's energy in the form of fish and silt to feed themselves. Fish alone accounted for at least one third of colonists' yearly meat supply. That percentage was higher for Native peoples, especially during the summer before their corn came in. Additionally, the annual arrival of fish and silt were essential fertilizers for New England's notoriously thin soils. Colonizers more intent on turning a profit than subsistence relied on the concentrated energy of rivers at fall sites to power mills. With human labor scarce and expensive in New England, converting the kinetic surge of rivers into mechanical energy to slice trees into lumber or grind corn into flour was *sine qua non* for any prospect of financial return in the region. In colonial New England, a sawmill could cut ten times more boards, and of a much higher quality, than a man yanking a saw in just a single day.

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[4] "What took place in 2,500 years of European development through social evolution came to New England in a tenth of that time." Carolyn Merchant, *Ecological Revolutions: Nature, Gender, and Science in New England* (Chapel Hill: University of North Carolina Press, 1989), 1; Brian Donahue, *The Great Meadow: Farmers and the Land in Colonial Concord* (New Haven, Conn.: Yale University Press, 2007); Daniel Vickers, *Farmers and Fishermen: Two Centuries of Work in Essex County, Massachusetts, 1630 --1850* (Chapel Hill: University of North Carolina Press, 1994).

Similarly, a gristmill of five to ten horsepower could pulverize grain into flour at least one hundred times faster than pounding it by hand with a mortar and pestle.[5] Rivers could not accommodate diffuse and concentrated extraction of energy without tipping the balance it strives for. While dams concentrated a river's power at a specific site, it interrupted the flow of fish and silt for miles. Mills also enabled the rapid transformation of the surrounding landscape by sparing men from labor so they could cut more trees or bring more farmland under cultivation. Such aggressive alteration of rivers grated against English common law that prevented water from being owned and preserved widespread access to the diffuse energy dynamics of rivers.[6]

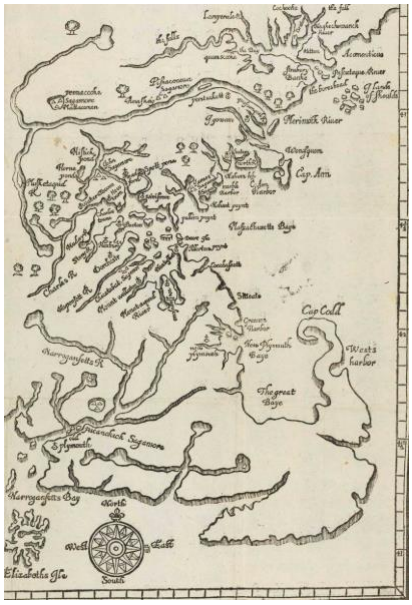

Figure 2 The oversized representation of rivers on early American maps indicates their importance for colonists in organizing space. William Wood, *New England's Prospect* (London: John Bellamy, 1639).

An ongoing struggle over what rivers should looks like raged between mill owners, their patrons, and those who relied on a river's benefits in plants, animals, and dirt. The economic and ecological centrality of rivers in colonial New England meant that confrontations along them triggered or swayed wider conflicts.

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[5] Calculation for sawmills drawn from Benno M. Forman, "Mill Sawing in Seventeenth-Century Massachusetts," *Old Time New England* 60 (Spring 1970): 119–20. A gristmill powered by ten horsepower will grind approximately seventy-five pounds of grain in one hour. Someone pounding grain by hand with a mortar or pestle could pulverize *less than half a pound* of corn per hour. One gets a sense of the labor needed to pound grain in an early eighteenth-century account from French Louisiana. "A negro must spend his day pounding [grain] in order to provide enough for two to eat." *Mississippi Provincial Archives*, ed. Dunbar Rowland (Jackson: Mississippi Department of Archives and History, 1929), 2:310. Conversation with George Whitley, miller at Gray's Gristmill in Westport, Massachusetts, Feb. 1, 2019.

[6] "For water is a moveable, wandering thing, and must of necessity continue common by the law of nature; so that I can only have a temporary, transient, usufructuary property therein: wherefore if a body of water runs out of my pond and into another man's, I have no right to reclaim it. But the land, which that water covers, is permanent, fixed, and immoveable: and therefore in this I may have a certain, substantial property; of which the law will take notice, and not of the other." William Blackstone, *Commentaries on the Laws of England* (Oxford: Clarendon, 1766), 2:18

Strangely, rivers are generally a silent, unseen force in histories of the period. One historian has mused that rivers' very ubiquity may explain their absence in many sources, observing that Georgian deerskin traders "never bothered to record their impressions" of the Savannah River "despite their constant movement up and down" that stream.[7] By orienting ourselves along rivers in colonial New England it allows us experience space as contemporaries did as well as fuse an emerging land/water dichotomy in the field. Early environmental histories of colonial America focused on land.[8] Such an approach reproduced European conceptions of property perpetuated in surviving documents which rendered American space "legible" to them. Exciting recent work has turned our attention to the ocean and has convincingly shown that the waves were as much of a contested frontier as the wilderness was.[9] Both overlook rivers which slip through the boundaries of both land and sea. By following rivers, this project fills in riverine spaces which fostered interaction between people living miles and worlds away and centers on the river valleys where the vast majority colonists and Native Americans actually lived.[10] Finally, by acknowledging preindustrial energy systems such as waterpower as significant forces

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[7] Robert Paulett, *An Empire of Small Places: Mapping the Southeastern Anglo-Indian Trade, 1732–1795* (Athens: University of Georgia Press, 2012), 60; James D. Rice, "Early American Environmental Histories," *William and Mary Quarterly* 75, no. 3 (2018): 417.

[8] William Cronon, *Changes in the Land: Indians, Colonists, and the Ecology of New England*. (1983; repr., New York: Hill and Wang, 2003); The impact of animals on this process has also been biased toward landed creatures. Katherine Grandjean, *American Passage: The Communications Frontier in Early New England* (Cambridge, Mass.: Harvard University Press, 2015); Animals: Virginia DeJohn Anderson, *Creatures of Empire: How Domestic Animals Transformed Early America* (New York: Oxford University Press, 2004); Allan Greer, *Property and Dispossession: Natives, Empires, and Land in Early Modern North America* (Cambridge: Cambridge University Press, 2018), 259–64.

[9] Andrew Lipman, *The Saltwater Frontier: Indians and the Contest for the American Coast* (New Haven: Yale University Press, 2015); Matthew R. Bahar, "People of the Dawn, People of the Door: Indian Pirates and the Violent Theft of an Atlantic World," *Journal of American History* 101, no. 2 (2014): 401–26; Keith Pluymers, "Colonizing Lands and Landscapes in the English Atlantic, c. 1580–c. 1640." PhD diss., University of Southern California, 2015.

[10] "We now find borderlands everywhere, but our ability to interweave their stories—and use them to context older narratives and transcend older boundaries—is as limited as ever." Pekka Hämäläinen and Samuel Truett, "On Borderlands," *Journal of American History* 98, no. 2 (2011): 339.

in people's lives, we can see that energy was not an apolitical force as scholars of fossil fuels generally assume.[11]

To be sure, historians have recognized the power of rivers and there are many books on the topic in American environmental historiography. These works, however, almost uniformly begin with the industrial revolution at the dawn of the nineteenth century.[12] For example, any history of the Blackstone River which wends through Rhode Island and Massachusetts invariably begins with the Slater Mill in 1793, the first waterpowered textile operation in America. It is as if Narragansett, Nipmuck, or colonial interactions with the Blackstone did not occur, or are not important enough to mention. Such an account also assumes that rivers remained unchanged until the industrial revolution. A colonial-style gristmill is among the attractions at the living history museum Plimoth Plantation, yet besides explaining to visitors how the mill worked (and selling artisanal "stone ground" flour), the exhibit says very little about the impact of mill technology on colonists' lives or how their introduction on a Native landscape impacted the larger history of the region. The few studies of early American waterways deem colonial mills "primitive," portray their environmental impact as insignificant, and portray the use of waterpower as simply a perpetuation of English common law practices.[13]

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[11] Joyce E. Chaplin, "The Other Revolution," *Early American Studies* 13, no. 2 (2015): 285–308.
[12] Theodore Steinberg, *Nature Incorporated: Industrialization and the Waters of New England* (Amherst: University of Massachusetts Press, 1991); John T. Cumbler, *Reasonable Use: The People, the Environment, and the State, New England 1790–1930* (Oxford: Oxford University Press, 2001); Richard W. Judd, *Second Nature: An Environmental History of New England* (Amherst: University of Massachusetts Press, 2014), 3; On the absence of water histories in early American environmental historiography see Rice, "Early American Environmental Histories," 417.
[13] Andrew M. Barton et al., *The Changing Nature of the Maine Woods* (Durham: University of New Hampshire Press, 2012), 104; For the few articles which address colonial or indigenous activity on rivers, see Daniel Vickers, "Those Dammed Shad: Would the River Fisheries of New England Have Survived in the Absence of Industrialization?" *William and Mary Quarterly* 61, no. 4 (2004): 685–712; Christine Delucia, "An 'Indian Fishing Weir' at Musketaquid: Marking Northeastern Indigenous Homelands and Colonial Memoryscapes," *Environmental History* 23, no. 1 (2018): 184–98.

Just as clouds, ice, streams, and earth drain into rivers, the health of waterways radiates far into the surrounding landscape. When humans concentrated river power with dams in the seventeenth and eighteenth centuries, they triggered a cascade environmental and social consequences. By shunting the flow of silt and fish with dams and nets, humans shifted historical baselines or extirpated valuable sources of food. Severing people's traditional relationships with rivers forced them to engage in a more extractive relationship with nature by putting more pressure on the land to compensate for the river-sourced food they lost. The destruction of diffuse riverine energy networks set New Englanders on a path dependency whereby industrial concerns could successfully argue by the early nineteenth century that commons rights to rivers should be overturned since, they reasoned, New England's abundant waterpower best served the public when it was managed by private hands. Central to their argument was that their mills provided more economic benefit to the community than the fish which had ascended rivers for time immemorial. However, mill owners' conveniently overlooked how private interests had employed violence and corruption for two centuries to kill fish and tip the scales in their favor. By 1800, the nature of many of New England's rivers would have been unrecognizable to those only one or two centuries before. Without fish and silt from rivers to fertilize New England's rarefied farmland, people exhausted the soil to the extent that many abandoned their fields by the 1850s.[14]

This dissertation is divided into three parts. Part I, Diffuse Power, stretches from the precontact period through the mid seventeenth century when New England's rivers flowed relatively freely and silt, fish, and people circulated widely along them. The Prologue A "Well-

[14] David R. Foster, Glenn Motzkin, Benjamin Slater, "Land-Use History as Long-Term Broad Scale Disturbance: Regional Forest Dynamics in Central New England," *Ecosystems* 1, no. 1 (1998): 96–119.

Watered" Country erects a backdrop for the encounter period by exploring human interactions with rivers in precontact Native New England and medieval Europe. This chapter draws mostly from sources in geology, archaeology, and anthropology to show that Native Americans and Europeans oriented their societies along waterways but by the sixteenth century came to have very different ideas about how waterpower should be harnessed. Native peoples' seasonal movements mimicked the constant flow of rivers and their shifting survival strategies were in sync with water's freezing or flooding. Widespread Native American access to abundant riverine resources reflected their belief in balance. Europeans on the other hand had fished out their rivers by the sixteenth century and watermills, often controlled by powerful landowners, crisscrossed waterways. Europeans' relationship with rivers was more likely to be at specific spaces where waterpower had been concentrated by dams.

Chapter 1 "Lords of Navigation," spans the years between encounter in the sixteenth century to approximately 1675 when Indians and colonists were mostly fighting among themselves rather than against each other. Both Europeans and Indians valued the open, diffuse nature of river energy. Rivers propelled Indians far from the coast to trade with Europeans for goods imbued with martial and spiritual power. Although the first European colonists found the free-flowing state of New England's numerous rivers very different from their home, they embraced Native-style relationships with rivers by adopting rivercraft of indigenous design suited for New England's dynamic riverscapes, fertilizing their crops with river fish, and relying on those same fish as food to survive on the many occasions starvation stared in them in the face.

Chapter 2, Waterpower, explores how the introduction of mills to New England altered the region's hydrology and drew colonists and indigenous people into conflict. Lacking a reliable labor pool, New England colonists needed to erect watermills if they fostered any hope of

turning a profit in such a cold, barren region. The dams that channeled a river's flow into tight spaces and over waterwheels concentrated waterpower to process resources such as wood or grain exponentially faster than muscle powered technologies. Although these mills were generally quite small, they began to interrupt the diffuse energy networks in river water. These dams blocked fish which Indians depended on for survival. By saving colonists hours of labor, mills allowed them to cut down more trees or clear more farmland which accelerated the habitat destruction of flora and fauna that sustained Indians. Finally, dams reconfigured the dynamic equilibrium of rivers by slowing the velocity of water above them and accelerating water below them. The inconsistent flow of rivers triggered a series of environmental changes by raising water temperatures and accumulating silt to toxic levels. Despite their remarkable ability to perform labor, Native Americans were not attracted to mills' labor-saving potential found increased energy consumption culturally incompatible with their own economy. Native warriors targeted mill structures as a practical and symbolic way to restore the diffuse networks of river energy they valued. Such actions prevented colonists from exporting the region's commodities and kept consumption of the region's limited resources local. To understand power during this period across New England, the existence of a milldam at a waterfall would have indicated whether the area was an indigenous or colonial space.

Part II explores the war period between 1675 and 1763 on New England's Eastern Frontier and argues that those conflicts were fought to control river spaces and not land. Chapter 3 explains how Wabanakis capitalized on the open, interlacing network of northern New England's rivers to successfully resist colonial incursions. Indians used sleek birch bark canoes to outpace colonists that allowed them to harry and destroy vulnerable settlements and evade capture. Chapter 4, Bridled Rivers documents how British colonists adapted their military

strategy at the turn of the eighteenth century by focusing their attention on blockading rivers. Instead of defending land or settlers, colonists fortified important portages and fishing sites to constrict Indian movement. These river forts protected mills the British needed for colonization projects and limited access to the diffuse properties of rivers to a select few sites. Such forts protected the British practice of concentrating river energy for their mills and put the colonial state in a position to adjudicate Wabanaki relations with rivers. Once the British secured waterways and chased away Indians, they were free to parcel the land into a saleable commodity which enriched powerful land speculators. Finally, through protecting mill sites, the British were able to harness waterpower for their overseas empire as the region's rivers processed timber and grain that would be consumed far from New England's shores.

In the first three decades of the eighteenth century, New England colonists began building more dams that crossed larger river stems. They also raised the height of existing dams. These structures impounded water, slackening rivers where they had previously moved swiftly. Dams imperiled the spring fish runs that Indians and colonists depended on for economic survival. Part III uncovers debates involving Native American and colonial communities over whether the benefits found in the region's river water was best distributed widely to many people in the form of fish or transformed into mechanical energy at mill sites under the supervision of select individuals.

Chapter 5 documents how after Indian wars, colonists gradually foreclosed Indian access or outright destroyed the diffuse properties of rivers. By the early eighteenth century, aggressive colonial fishing practices and dams shifted the baseline of fish populations to the point where Native peoples could not depend on them as a major food source. Loss of these resources

unmoored them from their traditional relationships with the environment and in many cases was the deciding factor in precipitating their dispossession.

The final chapter "Dammed" uncovers the near, and in some cases total disappearance of fish from southern New England's rivers during the eighteenth century. Like Native peoples, colonists had come to appreciate and even depend on New England's river fisheries. Their efforts to preserve the diffuse vectors of river energy failed because of the inconsistent and nebulous nature of law enforcement in colonial New England. Mill operators and their investors justified the concentration of river energy under their authority by arguing that the region's waterpower was more effectively used if it processed resources for trade. Through willful neglect, colonial authorities monopolized waterpower to hasten economic growth at the expense of Indians and the poor. The remaking of New England's rivers from diffuse to concentrated energy networks, manifest in the destruction of sea-run fish migrations and the loss of river-sourced fertilizers, forced smaller farmers to shift from subsistence practices to unsustainable market-oriented economic activities. Colonists' evolving relationship with waterpower mirrored that of indigenous peoples who only shortly before also lived along the region's riverbanks. That many small farmers lost their economic independence and were dispossessed from first their property and then later the region mirrored indigenous experiences as well.

If we want to understand the wider environmental and social transformation of New England from a sustainable Native American place to an unsustainable industrial-capitalist place, this dissertation argues that looking at a major waterfall would be a good place to start. Energy and resources mattered more in colonial Americans' lives than lines on a map or names etched onto deeds describing abstractions of land. The changes that occurred in waterways have been

hard to see because unlike stone fences, roving cattle, or extant documents, these events occurred underwater and are harder to observe. Yet this history has been hiding in plain sight, flowing through the center of New England communities and surviving in Indian place names. Despite the land-centric perspective of surviving European documents, we can catch glimpses of underwater changes if our focus on the past hugs the riverbank just like the structures and memorials beside New England's many waterfalls. The sound of tumbling water at these places is usually deafening. But if you cover your ears and look through the refractive mist of evaporating water, the remnants of forts, fish ladders, and dams at these energy-intensive places bear witness to the seismic social, political, and environmental changes people weathered during the seventeenth and eighteenth centuries.

PART I: DIFFUSE POWER

Prologue: A "Well Watered" Country: Rivers and Precontact New England Society

"For the Countrey it is as well watered as any land under the Sunne…it is thought there can be no better water in the world." William Wood, 1634[27]

When English explorer John Smith caught a glimpse of the North American coast from his heaving ship in 1614, he saw "a Countrie rather to affright, then [*sic*] delight one. And how to describe a more plaine spectacle of desolation or more barren I knowe not." Smith named this tract of America "New England." Historically the region's natural attributes have held a negative reputation among humans. The terrain is hilly, in some places mountainous; the soil acidic and infested with rocks. Nearly three centuries after John Smith's initial observations, industrialist Theodore Lyman III agreed, quipping that "As long as Massachusetts was overlaid by 10 feet of gravel, she would have to manufacture or starve." The climate fluctuates wildly with sweltering, humid summers and long, ferociously bitter winters. These conditions have consigned the region's human inhabitants to a modest, hardscrabble existence for the past twelve thousand years.

At the time of European contact, the Native Americans of New England had just recently adopted permanent agriculture, and only in the warmer south. The Wabanaki people to the north still preferred a mobile existence rather than try to make agriculture work in their frigid, craggy homeland. When Europeans arrived in the early seventeenth century, colonists searched in vain

[27] William Wood, *Wood's New-England's Prospect* (1634; repr., Boston: Prince Society, 1865), 16.

for a lucrative crop which could take root in New England's thin soils and endure the region's climate. The descendants of these European colonists left as soon as they got the chance, migrating west to the rich loamy soils of Ohio, Indiana, and Illinois in the early nineteenth century. When taking New England's geography into account, it is little wonder that its Native American and European residents have long looked to the sea for prosperity.[28]

The exception to New England's unattractive physical features is its many rivers and the energy they provide. The region enjoys heavy levels of precipitation which pool in mountainous inland areas, gradually coalescing into torrents of fast-moving water. These streams pull soil into river valleys, replenishing alluvial lands with life-giving nutrients. Rivers also slice through New England's bumpy terrain, creating an even surface which expanded mobility for people searching for resources. New England's rocky, undulating terrain created swift rivers which plunged over countless waterfalls. These obstructions funneled migrating fish into narrow spaces and forced them to surface as they challenged the tumbling water. A well-placed net or spear made them easy victims. Europeans found New England's steep rivers poor for accommodating large ships but ideal for turning millwheels. The abundance of easily exploitable river energy played no small part in making New England the launching pad for the Industrial Revolution in the United States in places such as Lowell, Massachusetts, Pawtucket, Rhode Island, and Manchester, New Hampshire. The waterfall sites in these places had old Indian names, and their etymology shows that industrialists were hardly the first to congregate there to value the river's power. For example, in Manchester, the waterfall which powered the machinery was called "Amoskeag,"

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[28] John Smith, *A Description of New England* (London: Robert Clerke, 1616), 36; Cumbler, *Reasonable Use*, 5; "The soil of the New-England provinces scarcely furnished provisions sufficient to support the inhabitants. Their industry has therefor been chiefly directed to the sea, to fishing, navigation, and the various branches of business subservient to them." David MacPherson, *Annals of Commerce, Manufactures, Fisheries, and Navigation* (London, 1804), 3:567.

meaning "fishing place" in the Penacook tongue.[29] The caloric and kinetic abundances New England's waterways provided humans made them the preferred energy system humans tapped into, around which they oriented settlements and societies.

New England's rivers during the sixteenth century appeared much as they had for eons. As water skirted over the Appalachian Mountain Range in clouds that dropped as precipitation, it gradually moved toward the ocean. On its journey, water expended energy widely across space as it flowed through the region's many streams and rivers. Living and non-living elements inhered in river water sourced deep in the ocean or in steep mountain ranges mingled along a river's course. New England's indigenous peoples largely let rivers alone to preserve diffuse properties river water gathered for them in the form of silt or fish. When Native peoples manipulated the flow of a river, it was to extend the reach of the resources found in river water by chiseling waterfalls to expand fish habitat or placing obstacles at strategic points to corral fish. Native peoples' seasonal movements mimicked the constant flow of rivers and their shifting survival strategies were in sync with water's freezing or flooding. Native belief in widespread access to abundant riverine resources reflected their belief in balance: resources should be shared widely and distributed equally, much like how a river works its way through a landscape.

The Britons who would soon land on New England's shores held different ideas about what rivers should look like. Britain's uneven topography and heavy precipitation levels meant that rivers there looked much like precontact New England's. However, in the five hundred years before contact with America, Britons transformed the flow and character of their rivers with milldams. By adding impediments to a river's descent to the sea, Britons redirected water in

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[29] Louis C. Hunter, *Waterpower in the Century of the Steam Engine*, vol. 1 of *A History of Industrial Power in the United States, 1780-1930* (Charlottesville: University of Virginia Press, 1979), 130–31; John C. Huden, *Indian Place Names of New England* (New York: Museum of the American Indian, 1962), 23.

ways that transformed its kinetic properties into mechanical power which accomplished the labor of grinding grain, fulling cloth, and other rote agricultural tasks. These milldams also blocked elements naturally inhered in water from moving up and downstream. Although Britain's rivers were a commons theoretically open to all, after the arrival of milldams people could only acquire a river's benefits where its power was concentrated at a specific site. Such rivers better suited the fixed, permanent nature of British settlement and supported their larger population.

Geologic forces working over incomprehensibly long spans of time made New England a region distinct from its neighbors long before humans arrived. The Appalachian Mountain Range to New England's west is among the oldest on earth, formed some 400 million years ago amid the tectonic crucible of Pangea. The only mountains ever seen by humans are but a fraction of their original height as the forces of wind and water have gradually worn them down over the eons. New England's glacial past also set it apart from the other would-be English North American colonies. The continent's first glacial episode occurred over two million years ago, and the last ended around twelve thousand years ago. At their height, these glaciers pushed down to northern Pennsylvania, covering nearly all of New York State and New England. Glaciers thrust rocks and boulders before them as they advanced. Parts of New England were at times covered by a mile of sheer ice, the immense weight of which scraped much of the soil from the bedrock. As temperatures rose, retreating glaciers dropped their rocks while the melt-off carved valleys. The vigorous scrubbing effect of these advancing and retreating glaciers over thousands of years left a gnarled, macadamized landscape in their wake.[30]

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[30] Chet Raymo and Maureen E. Raymo, *Written in Stone: A Geological History of the Northeastern United States* (Guilford, Conn.: Globe Pequot Press, 1991).

Because the Atlantic coast below New York was spared the aftereffects of glaciation, its geography is entirely different. An even coastal plain stretches south all the way from southern New Jersey to Florida. This plain grows from fifty miles in width at its northern reaches to over one hundred miles in North Carolina and Georgia. The Atlantic Coastal Plain consists of sedimentary rock created from accretions left by millions of years of changing ocean levels. Although the soil is not particularly fertile, its elevation is significantly less treacherous than New England's coast.[31]

As one might expect, rivers in the Mid-Atlantic and Southern states are considerably smoother and can be easily navigated. This is largely because the fall line (the location of the first falls or rapids from the sea) on these rivers are many miles upstream. The fall line is determined by the point where the pliable sedimentary rock of the coastal plain hits the harder igneous and metamorphic rock of the continent. A dramatic drop marks this sudden shift in rock density where the effect of a river's unrelenting current carves away amounts of earth at starkly uneven rates. This means that a Cherokee canoeist paddling from the ocean up Georgia's Savannah River would not be confronted by the inconvenience of a waterfall for over one hundred miles. In Virginia, planters along the James River enjoyed uninterrupted navigation for over seventy miles. These conditions made rivers ideal conduits to float tobacco or deerskins in heavy boats to the coast and the Atlantic market.[32] In New England the fall line is much closer to the ocean—ranging from around thirty to less than five miles in some places. Traveling up or down these rivers requires scaling numerous waterfalls and challenging the swift current created

[31] National Park Service, "Geology of the Coastal Plain," https://www.nps.gov/cue/geology/geo_coastalplain.htm [accessed June 12, 2016].
[32] Bruce G. Terrell, *The James River Bateau: Tobacco Transport in Upland Virginia, 1745-1840* (Eastern Carolina University Research Report No. 7, 1992), 39–55; Paulett, *Empire of Small Places*, 64–65.

by those sudden drops. Not unlike walking up a set of stairs with a steeper incline, moving along New England's rivers took much more human effort than those to the south.

Colonists described New England as a "well watered" country, and "wondrous full of Brookes and Rivers."[33] The region's precipitation and soil structure created this situation. Annual precipitation averages between forty and fifty inches which falls equably throughout the year. The rocky and sandy soil left by glaciers have a high infiltration rate, meaning they drain water quicker than fine-grained or clay-rich soils. After water plummets from the sky it moves downhill quickly to New England's rivers or lakes, producing a hydrology of lotic, or fast running waters. The consistent rates of precipitation mean that water is rarely in short supply, especially during spring when frozen snow or ice melts create flood conditions known as freshets. When measured in 1880, New England possessed over one third of the United States' waterpower despite covering only two percent of the nation's surface area.[34] Before mills plugged into these tumbling, rock-strewn rivers, migrating fish found an ideal spawning ground in their frigid, oxygen-rich waters replete with countless underwater hiding places.[35]

New England's rivers played host to a cavalcade of anadromous fish species year round, first struggling upstream to spawn then easing back toward the ocean. Anadromous fish spend most of their lives in saltwater, but spawn in freshwater to keep the ocean's many predators at an arm's length. When the water hits 51 degrees Fahrenheit, usually by March in southern New England and May in the north, throngs of alewives irrupt into the region's waterways. The alewife's nearly indistinguishable cousin the blueback herring arrives shortly after when the

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[33] Wood, *New-England's Prospect*, 16; Roger Williams, *Key into the Language of America* (London: Gregory Dexter, 1643), 72–73; Emmanuel Bowen, *Complete System of Geography* (London, 1747), 2:662–63.
[34] Sarah M. Flanagan et al., *Water Quality Assessment of the New England Coastal Basins in Maine, Massachusetts, New Hampshire, and Rhode Island: Environmental Settings and Implications for Water Quality and Aquatic Biota*, Water-Resources Investigations Report 98-4249 (Pembroke, N. H.: U. S. Department of the Interior, 1999), 12–13; *Reports of Water-Power of the United States* (Washington D.C.: Department of the Interior, 1885), 1:xiv.
[35] H. B. N. Hynes, *The Ecology of Running Waters* (Toronto: University of Toronto Press, 1970), 319, 335.

water reaches 57 degrees. Finally, the shad run begins at 62 degrees. The adults return to the sea shortly after spawning, and once hatched, the juveniles descend in autumn. The alewife and blueback herring are commonly referred to collectively has river herring, as they are both quite bony fish and arrive in massive numbers whose high mortality rates sustain species above them in the food chain. Shad possess all of these attributes, but are noticeably bigger, with adults weighing three times as much at 2½ pounds.[36]

Larger fish such as sturgeon, striped bass, and salmon arrive shortly after the river herring. Atlantic salmon remain in freshwater until autumn, and unlike their Pacific cousins who expire after spawning, return to the ocean. Their spawn incubate under the riverbed during the winter then enter the ocean as smolts as temperatures rise and streams become engorged with rainwater in the spring. Eels (which are catadromous, or live in freshwater and spawn in the ocean) slither downstream in the fall on their way to their distant spawning grounds in the Sargasso Sea. Their ilk, tiny translucent elvers return in the spring. Finally, bottom-dwelling tomcods complete the yearly procession by ascending beneath ice-locked waterways in the winter to spawn.[37]

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[36] U. S. Department of the Interior, "Alewife/Blueback Herring," *Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates (North Atlantic)*, Dennis M. Mullen, Clemon W. Fay, and John R. Moring (Washington DC, 1986); 108; Michael R. Ross, *Recreational Fisheries of Coastal New England* (Amherst: University of Massachusetts Press, 1991), 121; U. S. Department of the Interior, *Fishes of the Gulf of Maine*, Henry B. Bigelow and William C. Schroeder (Washington DC, 1953), 108; Snake-like, blood sucking lampreys are among the early arrivals, ascending rivers once the water temperature reaches 50 degrees. Ibid., 18.

[37] Ross, *Recreational Fisheries*, 126; U. S. Department of the Interior, "Striped Bass," *Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates (Mid-Atlantic)*, Clemon W. Fay, Richard J. Neves, and Garland B. Pardue (Washington DC, 1983), 5; Joint Special Committee Report on the obstructions to the passage of fish in the Connecticut, Merrimack, and Saco Rivers, Mass. Senate, no. 8 (Boston, Jan. 1866), 9; U. S. Department of the Interior, "Atlantic and Shortnosed Sturgeons," *Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates (Mid-Atlantic)*, Carter R. Gilbert (Washington DC, 1989); Henriette I. Jager, et al., "Reconnecting Fragmented Sturgeon Populations in North American Rivers," *Fisheries* 41, no. 3 (2016): 140–48; Julie Crocker, "Surprise Catch: First Shortnose Sturgeon Documented Above Dam in Connecticut River," *NOAA Fisheries*, Oct. 24, 2017. https://www.greateratlantic.fisheries.noaa.gov/stories/2017/10/24_surprise_catch__first_shortnose_sturgeon_documented_above_dam_in_connecticut_river.html [accessed May 2, 2018]; U. S. Department of the Interior, "American

Among the many challenges for fish progressing up inland waterways are inevitable natural obstructions formed by anything from rocks to beavers and humans. Some species such as striped bass do not venture far from the familiarity of brackish waters, while others such as Atlantic Salmon ascended waterways like the Connecticut River hundreds of miles, and so have different strategies to deal with obstacles. First, anadromous fish arrive during the spring because high water levels from rain and snowmelt provide wider paths to ascend the interior. Sturgeon and river herring do not jump over obstacles, rather they find strong currents beneath waterfalls which they surmount by charging up and over. Salmon possess muscles with explosive power which make them prodigious leapers allowing them to clear obstacles as high as eleven feet. Anadromous species all share the remarkable commonality that despite spending most of their life travelling countless miles across the ocean's endless expanse, they all magnetically return to their natal spawning grounds, no matter how small or humble the trickling brook or stream.[38]

Precontact New England

Native Americans clung to New England's rivers because the energy found in and on moving water was essential to survival in the region. New England's indigenous peoples associated themselves so thoroughly with waterways that the name of their people and river was often interchangeable. Their mobile subsistence strategy followed rivers' ability to move resources and people across space. Native peoples understood rivers fundamentally as spaces of movement and connection, and their practices mimic the balance of a river's flow.

Eel," *Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates (North Atlantic)*, Douglas E. Facey and Michael J. Van Den Avyle (Washington DC, 1989), 4–7. U. S. Department of the Interior, "Atlantic Tomcod," *Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates (North Atlantic)*, Lance L. Stewart and Peter J. Auster (Washington DC, 1987), 3.

[38] Hynes, *Running Waters*, 353; For images of these fish see the appendix at the end of the chapter.

When the first humans entered New England approximately fifteen thousand years ago, they, like almost all humans throughout history, gravitated toward water. These hunter-gathering people came to settle along the coasts and vales created by glacial outwash. Beyond its obvious life-sustaining properties, the human attraction to water is a common impulse since sloping terrain along coastlines or river valleys usually allows the least strenuous route across space. The importance of these geographies to these peoples' sense of self can be seen in that the Wabanaki word for community—*wlôgan*—closely resembled their word for river valley—*wôlhanak*. Water distended peoples' ability to move afield. The more efficiently someone could travel, the larger their range to gather and hunt. Consequently, prehistoric peoples of New England tended to congregate along bays and rivers which allowed them to cull the biota from several habitats such as upland forests, lowland thickets, marshes, and shorelines.[39]

Organisms require energy to live, all of which is ultimately derived in the sun. Since the nineteenth century, scientists have measured this sustaining energy in calories.[40] The people who would later be collectively known as Native Americans understood that in temperate ecosystems like New England, caloric food energy appeared only in fits and bursts. Failing to gather food within the predictable, seasonally specific window it appeared usually meant a slow, agonizing death from starvation. New England was an ecosystem defined by extremes of "light and dark, high and low tides, waxing and waning moons, and especially the long and short days which mean hot and cold seasons." Plants adapt to these extreme seasons by capitalizing on the sun's life-giving energy during the summer to grow and reproduce, while they retreat underground to

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[39] Lisa Brooks, *The Common Pot: The Recovery of Native Space in the Northeast* (Minneapolis: University of Minnesota Press, 2008), 3–4; Dean Snow, *The Archaeology of New England* (New York: Academic Press, 1980), 2; Bruce J. Bourque, *Twelve Thousand Years: American Indians in Maine* (Lincoln: University of Nebraska Press, 2001), 42–44; Cronon, *Changes in the Land*, 53.

[40] properly giving acknowledgment to the sun's role in all of this, a calorie is measured in heat, specifically the ability for an item to raise a gram of water 1˚ Centigrade.

endure the cold, dark winter months. Animals that depend on these plants have adopted seasonal behaviors to capitalize on the moments of peak plant energy: they gorge, horde, and mate in autumn so they might ride out winter's scarcity by migrating, hibernating, or otherwise laying low in the winter, often huddled in shelters built to shield themselves from the elements. Winter acts as a form of population control since those unable to endure the scarcities of winter would not live to see summer. Like animals, Indians needed to closely follow the energy flows of plants and animals to survive.[41]

Humans, however, cannot hibernate, or migrate great distances on their own two feet, or go without eating for very long. Precontact peoples realized that they needed to move to different habitats to harvest seasonal energy abundance in order to survive the year. One observer noticed their aversion to "winter and summer in one place, for that would be a reason to make fuell scares." Indian life in New England was a mobile existence oscillating between watery spaces. Rivers played host to splashing swarms of migrating fish every spring and eels every autumn, providing a crucial source of protein and fat before and after the region's unforgiving winters. Fish were an energy bonanza for New England biota. By accumulating size feeding on plankton and other small creatures while deep in the ocean, fish such as alewives and shad served as a vital pipeline to deep sea energy by migrating up rivers each year.[42] The arrival of these spawning fish crowding up rivers in March marked the end of winter. Lean Indians eagerly broke their small winter hunting camps to congregate in great numbers along rivers to welcome the sudden plentitude of fish protein. Bird migrations in Spring and fall also brought them to marshes and the shore. In the summer, Indians plucked nuts and berries from bushes and combed

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[41] Cronon, *Changes in the Land*, 37–38, 41.
[42] Øystein Varpe, Øyvind Fiksen, Aril Slotte, "Meta-ecosystems and biological energy transport from ocean to coast: the ecological importance of herring migration," *Oecologia* 146 (Dec. 2005): 443. Deep sea oil reserves tapped by offshore drilling rigs acquire their energy from the same source: plankton feces accumulated over eons.

the beaches for lobsters and oysters burrowed in the sand. Some archaic peoples developed sophisticated boats and spears capable of venturing miles into the ocean to hunt deep sea species like cod and even swordfish. When Indians felt the shock of the first brisk September winds skirling against their skin they returned to rivers to catch spawning eels.[43]

Once temperatures nosedived, Indians, not unlike plants and animals, retreated to brace for the winter. Indians marked the beginning of winter by submerging their canoes in lakes or rivers for storage. Mobility became more energy intensive in the winter because lakes and rivers locked in ice rendered canoes useless. As the availability of food waned, people broke into small groups in forests to hunt game which could more easily be tracked or slowed in deep snows. Indian winter camps were consequently small and spread widely across the land to minimize the number of mouths to feed and maximize the chances of catching megafauna. During his years living among Wabanakis, John Gyles remembered surviving "upon Fish, Wild-Grapes, Roots &c. which was hard Living" when his captors failed to catch a moose. Without relief from fish runs in the spring, people would starve to death before plants blossomed or animals returned.[44]

To conserve their own at times precious amounts of energy and to maximize access to food, these hunter gatherers preferred living on the edges of habitats or along waterways. Living at the edge of two habitats like an estuary or shoreline allowed people to access two distinct sources of flora and fauna without having to travel very far. Situating oneself along a waterway

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[43] Kerry Hardy, *Notes on a Lost Flute: A Field Guide to the Wabanaki* (Camden, Maine: Downeast Books, 2009), 51–82; Thomas Morton, *New English Canaan* (1637; repr., Boston: Prince Society, 1883), 138; Wood, *New-England's Prospect*, 75–77; Pierre Biard, *Relation de la Nouvelle France* (Lyon: Louys Muguet: 1616), 42–49; Bruce J. Bourque, *The Red Paint People: The History and Ecology of an Ancient American Sea People* (Piermont, N.H.: Bunker Hill Publishing, 2012).

[44] Sebastian Rale to Nephew, Oct. 15, 1722 in *Jesuit Relations and Allied Documents*, ed. Reuben Gold Thwaites (Clevelend: Burrows Brothers, 1900) 67:137; John Gyles, *Memoirs of Odd Adventures and Signal Deliverances in the Captivity of John Gyles, Esq.* (Boston: S. Kneeland and T. Green, 1736), 8; Indians caught freshwater fish on frozen lakes and also tomcods, or "frostfish" which migrated up rivers in the winter. Thomas Wickman, "Snowshoe Country: Indians, Colonists, and Winter Spaces of Power in the Northeast, 1620–1727" (PhD diss., Harvard University, 2012).

also was ideal because floating on water generally took less energy or labor than shuffling overland, especially in rocky New England. Water's terrain tends toward being even, and if one learns to manipulate the alterations of moving water in the form of rapids or tides with a paddle on a raft or a sleek canoe, a person can glide along with minimal effort. Native preference for water travel survives in their toponyms which acted as literal finding aids telling people which streams were navigable, which were not, and the best way to portage across obstacles. For example, *Capanewagen* on the Maine coast conveyed to visitors that the channel was unnavigable and there was "no choice but to cross here by land." *Aswaguscawadie* in New Hampshire revealed to visitors that it was possible to drag a canoe through the stream, rather than carry it. *Chebatigosuck* told Indians that they were a "short way from river." On a lake adjoining the St. Croix River, *K'chi p'sagnum* was the place "where they split boards to make skids for canoes" to prevent damaging their birch bark hulls in the nearby shallows. As these names and countless others testify, New England's Native people preferred clinging to water. For people who had to be on the move constantly to find food, waterways made life considerably easier by expanding access to new habitats and a larger food base. Native peoples thus harnessed the waters of river and tides to efficiently gather energy.[45]

Historical Background

Discussing the Native Americans of New England before European contact in any totalizing way would be misleading. The archaeological record reveals profound changes in the

[45] "In the long run the river's work of eliminating obstructions aids the human work of moving up and down rivers." Richard White, *The Organic Machine*, 12; Huden, *Indian Place Names of New England*, 35, 43, 48, 76; see also Fannie Hardy Eckstrom, *Indian Place-Names of the Penobscot Valley and the Maine Coast* (Orono: University of Maine Press, 1978); for the importance of place names in another Native American culture, see Keith H. Basso, *Wisdom Sits in Places: Landscape and Language among the Western Apache* (Albuquerque: University of New Mexico Press, 1996).

region's human history over millennia, with few clear continuities. Pottery, spear points, and other artifacts make it clear that various cultures moved into the region which either displaced or replaced others. Native New England seemed to be a provincial place, continually absorbing influences introduced from the north, south, and west. Unfortunately, changing water levels and acidic soils have long washed away or dissolved these people's habitations. The relative absence of archeological discoveries has left more questions than answers about New England's archaic and pre-contact peoples.[46]

Once we come closer to the European discovery of America, the picture of Native American life in New England begins to come into clearer focus, although many details remain stubbornly fuzzy. The dearth of archeological findings has led some scholars to make inferences from contemporary developments among Iroquoian peoples in New York, resulting in New England being grouped in the archaeological classification as a "Woodland Culture." Others have refused to make such inferences, interpreting the lack of centralized settlements in prehistoric New England as evidence that the region's indigenous population was considerably smaller in size and more mobile than their southern and western neighbors.[47]

Northeast North America was undergoing massive social changes over five hundred years before European arrival courtesy of an agricultural revolution. For thousands of years people cultivated what has been termed the "Eastern Agricultural Complex" which included squash, goosefoot, maygrass, knotweed, sunflower, and little barley. These crops were

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[46] Bourque, *Twelve Thousand Years*, 37–74; Dena F. Dincauze, "A Capsule of Prehistory in Southern New England" in Laurence M. Hauptman and James D. Wherry, eds., *The Pequots in Southern New England: The Fall and Rise of an American Indian Nation* (Norman: University of Oklahoma Press, 1990), 19–32.
[47] Dean Snow, *Archeology of New England*; Elizabeth Chilton, "Farming and Social Complexity in the Northeast," in *North American Archaeology*, eds. Timothy R. Pauketat and Diana DiPaolo Loren (Malden, Mass.: Blackwell Publishing, 2005), 140–49.

domesticated independently in the northeast and alleviated some of the hardships or uncertainties of scavenging and hunting. People depended on these crops to varying degrees, but still relied on hunting and gathering to satisfy the remainder of their caloric needs. Around 900 something changed. Higher-yielding strains of maize arrived in New England from the southwest.[48] Around the same time the climate rose in the north Atlantic, producing longer summers. Although Indians had strains of corn which could mature in 60 days, evidence of intensive maize agriculture in North America does not exist north of areas averaging more than 120 frost-free days, likely because one harsh winter would kill the harvest and put an entire community dependent on that crop in peril. Because this 120 day frost-free line cuts through New England, climate change made maize a more attractive crop to people now not so close to that climactic edge. Beans arrived in New England around 1200.[49] With squash grown alongside the newcomers of maize and beans, the people of northeastern North America now had the "three sisters" which provided enough protein amino acids to sustain life. Hunting, fishing, and scavenging could move from primary to supplementary activities as they had for societies in Mesoamerica and the Andes. The arrival of maize and a changing climate made it possible for people in Pennsylvania then New York to gradually abandon their traditional horticulture

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[48] Bruce D. Smith, "Eastern North America as an Independent Center of Plant Domestication," *Proceedings of the National Academy of Sciences of the United States of America* 103, no. 33 (2006): 12223–28; Richard A. Yarnell, "The Importance of Native Crops during the Late Archaic and Early Woodland Periods" in *Foraging and Farming in the Eastern Woodlands*, ed. C. Margaret Scarry (Gainesville: University of Florida Press, 1993), 13–26; Matthew A. McConaughy, "Current Issues of Paleoethnobotanical Research from Pennsylvania and Vicinity" in *Current Northeast Paleoethnobotany II*, ed. John P. Hart (Albany: New York State Education Department, 2008), 22–24.
[49] Daniel K. Richter, *Before the Revolution: America's Ancient Pasts* (Cambridge, Mass.: Harvard University Press, 2011), 12; Chilton, "Farming and Social Complexity," 142–43; Snow, *Archaeology of New England*, 253; Richard A. Yarnell, *Aboriginal Relationships Between Culture and Plant Life in the Upper Great Lakes Region* (Ann Arbor: University of Michigan Press,1964), 128; C. William Monaghan, Timothy M. Schilling, and Kathryn E. Parker, "The Age and Distribution of Domesticated Beans (Phaseolus vulgaris) in Eastern North America: Implications for Agricultural Practices and Group Interactions," *MCJA Occasional Papers* (Summer 2014), 41.

practices and adopt intensive maize agriculture. Curiously this did not seem to occur on the same scale in New England.

Archaeologists look for evidence of permanent settlement as proof of maize's arrival, since dependence on the three sisters system would obviate the mobile existence traditionally needed to gather the food energy to survive. The arrival of intensive agriculture added another importance for rivers: riverine and coastal floodplains provided the richest soil on New England's otherwise barren and rocky surface. Unsurprisingly, many semi-permanent agricultural sites have been discovered along waterways. Inland riverine peoples in places like the Connecticut Valley seemed to be more dependent on maize since they lacked the shellfish and other marine abundances found near the ocean. The appearance of pottery in New England suggests that many people were adopting more of a sedentary lifestyle. Still, the general absence of large communities, even in warmer southern New England, means that Indians had not entirely abandoned the flexible survival strategies mobility afforded, and thus may be better understood as "mobile farmers" or "foraging agriculturalists."[50]

The Indians of New England seemed to adopt the three sisters agricultural system slowly, and only tentatively. Although their exact reasoning is lost to time, there are a few possible explanations. Intensive maize agriculture provides a more plentiful and predictable source of food which can be stored for the lean colder months. More stored food energy for the winter allowed for population growth, since survival of that season had traditionally dictated the carrying capacity for people and animals over a set amount of space.[51] But committing totally to maize requires more physical labor than foraging and leaves a community extremely vulnerable

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[50] Kathleen J. Bragdon, *Native People of Southern New England* (Norman: University of Oklahoma Press, 1996), 55–79; Bourque, *Twelve Thousand Years*, 75–90; Chilton, "Farmers and Social Complexity," 149.
[51] "they…keepe a convenient portion therof to releeve them in the dead of winter." Morton, *New English Canaan*, 160; *Voyages of Samuel de Champlain*, trans. Charles Pomeroy Otis (Boston: Prince Society, 1878), 2:121.

to crop failures on account of the weather, or warfare. Around 1300 the climate dropped, ending the "medieval optimum" of warm temperatures enjoyed since 900. A crisis soon presented itself to maize-growing Indians living north of Chesapeake Bay because increasingly harsher winters reduced frost-free days below the 120 day minimum, pushing their flint corn beyond the limit. Since humans need to eat every year, just one crop failure could be disastrous for people deriving most of their calories from a single plant. Facing famine, people in New York and Pennsylvania fled south, pushing into others' territory and instigating chaos. Fortifications begin to appear after 1300 in the Potomac Valley and villages decrease in size. The absence of fortifications or large villages in New England during this time suggests that Indians there avoided this maelstrom. By only partially adopting maize culture, New England's indigenous peoples hedged against the vulnerability of having a single food source by continuing their seasonal migrations to hunt, fish, and forage.[52]

An episode shortly following the arrival of the Pilgrims to Plymouth bears out the advantages of this survival strategy. When drought scorched the soil and withered crops during the summer of 1623, desperate colonists set aside an extra day each week to beseech God for rain. Indians were "astonished" to witness this and "not a little troubled" for their new neighbors. Although their crops also suffered from the effects of drought, Indians were less anxious about the weather since they "could make a shift to supply themselves of their wants with fish and other things, which the English they could not well do." This halfway measure meant that they

[52] James D. Rice, *Nature and History in the Potomac Country: From Hunter-Gatherers to the Age of Jefferson* (Baltimore: Johns Hopkins University Press, 2009), 30–43. Potomac Indians also did not adopt maize agriculture wholly. Perhaps like New England, the richness of the sea gave them less of an incentive to radically alter their society.

could enjoy more food security than before 900, but not sustain the population-dense societies as Europeans or their southwestern neighbors.[53]

Within New England itself, economic and cultural factors created a rough distinction between the peoples of the north and south. Although both spoke Eastern Algonquian, northerners spoke a Wabanaki variant closer to their northeastern Micmac and Maliseet neighbors. Southerners such as the Massachusett, Narragansett, Pequot, and others spoke a mutually intelligible tongue that linguists have divided into five branches which anthropologist Kathleen Bragdon has collapsed under the single name of "Ninnimissinuok," or "people" in the Narragansett language. The adoption of maize and the attendant social effects also divided the north and the south. Southerners by and large harvested maize (estimated to be 65% of their diet) which made it possible to organize into larger villages with population densities eight times larger than their Wabanaki neighbors. When first recorded in the seventeenth century, Agawams of the Connecticut Valley had named half of their twelve months (called *kesos*, or moons) after an activity concerning maize cultivation and only one after fish. Some Wabanakis to the north seem to have grown maize in river valleys as high as the Kennebec River, but it was only a minor part of their yearly food supply. Three of their months were named for fish to denote seasons of watery harvests when recorded in 1691. Sebastian Rale in 1723 observed Kennebec Wabanakis "live upon them [river fish] during the whole time while they are planting their fields," indicating that they did not harvest enough corn to store into the spring.[54]

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[53] William Hubbard, *A General History of New England from the Discovery to MCDLXXX* (Cambridge, Mass.: Massachusetts Historical Society, 1815), 74.

[54] Daniel Gookin, "Historical Collections of the Indians in New England" in CMassHS 1st ser., 1:141–227 (1674, repr.; Boston: 1792), 149; M. K. Bennett, "The Food Economy of the New England Indians, 1605–75," *Journal of Political Economy* 63, no. 5 (1955): 394; Gordon M. Day, "An Agawam Fragment," *International Journal of American Linguistics* 33, no. 3 (1967): 244–45; Smith, *Description of New England*, 36; John Pickering and Sebastian Rasles, "A Dictionary of the Abnaki Language, in North America, With an Introductory Memoir and Notes," *Memoirs of the American Society of Arts and Sciences* 1 (1833): 478; *Jesuit Relations*, 47:213.

Climate was probably an important reason for New England's north-south maize distinction—the 120 frost free minimum for maize cultivation conforms roughly with the lower Merrimack River, or Massachusetts' northern border. Growing maize north of this line was possible, and indeed evidence of maize has been found as far as the St. Johns River Valley in New Brunswick. But the chances of a long winter which would kill the crop were much higher, so having a fallback plan seemed to be important. Over half of the Wabanaki diet came from marine animals caught in the ocean, lakes, and rivers. The north-south division was apparently a hostile one. With the warming climate, maize-growing Massaschusett people pushed north to the Merrimack River into New Hampshire and southern Maine. That the Wabanaki villages first observed by Europeans on the upper Merrimack were palisaded and on high bluffs suggests that they forcefully resisted this advance of horticultural people and the cultural changes they brought.[55]

Although there were significant differences between the indigenous peoples of northern and southern New England, the upshot of the preceding summary is that they both had very mobile economies. Even those groups who adopted intensive maize agriculture in the Connecticut Valley and southeastern coasts resisted sedentary behavior, choosing instead to migrate to different habitats throughout the year to take advantage of seasonal energy flows. For people that eked the maximum from the environment, with limited to no food stores to endure the hard times, efficiently capturing and preserving energy was crucial. Moving between

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[55] Bert Salwen, "Indians of Southern New England and Long Island: Early Period" in *Handbook of North American Indians*, ed. Bruce G. Trigger (Washington: Smithsonian Institution, 1978), 15:160; Snow, *Archaeology of New England*, 33, 331–37; Bennett, "Food Economy of the New England Indians," 394; Bernard G. Hoffman, "Ancient Tribes Revisited: A Summary of Indian Distribution and Movement in the Northeastern United States from 1534 to 1779," *Ethnohistory* 14, no. 1/2 (1967): 21; *Voyages of Samuel de Champlain*, 2:67. The corn grown farther to the north in places like Maine and the St. John's River Valley was green corn, and consumed after being boiled on the cob. This was not as calorically rich as the maize where the kernels could be removed.

shorelines, marshes, lowland forage areas and upland hunting grounds with the least amount of calorie expenditure was thus of utmost importance to all Indians in what would become New England. The location of their villages at intersecting water sites such as river confluences, mouths, estuaries, or portage points between water evinces their high regard for water energy in the form of food and transportation.

Rivercraft

New England Indians conceptualized space as "networks of waterways and kinship."[56] Their canoe, or *mishoon* in Massachusett, or *quiden* in Wabanaki, was the best vehicle to move on New England's riverscape. "Canoe" is a Carib word for a logboat. English observers attached that term, which they likely first read in Spanish accounts of America, to similar craft they saw in New England. Very few precontact canoes survive, but since Native people had been fishing swordfish deep in the ocean five thousand years ago, it is safe to assume that sophisticated craft existed for a long time. *Mishoon* varied in size, material, and design in ways which deviate from the conception of a canoe today. European observers witnessed huge canoes fifty feet long carrying up to thirty men plying the ocean. The canoes used on rivers were of course considerably smaller. Hewn from tree trunks or stitched together with birch bark or animal hide, these craft were extremely agile with shallow drafts making them adaptable to varying depths and currents of rivers. John Josselyn tried to relate to those in England the sight of "bold Barbarians" jumping waterfalls "as high as a house…with desperate speed, but with excellent dexterity, guiding his Canow that seldom or never it shoots under water, or overturns." If the

[56] Brooks, *Common Pot*, xxxv; Jonathan K. Patton, "Considering the Wet Homelands of Indigenous Massachusetts," *Journal of Social Archaeology* 14, no. 1 (2014): 87–111.

cascade proved too intimidating, birch or hide canoes could be easily lugged by one person around obstacles or between streams over New England's notoriously rocky geography.[57]

The first canoes were undoubtedly dugouts. Indians fell girthy oak, pine, and chestnut trees then scooped out the trunk by feeding a slow, smoldering fire, hacking away the char with clam shells and stones. Roger Williams reported that this process took ten to twelve days to complete. A finished dugout weighed several hundred pounds, especially once waterlogged after use. Indians of southern New England may have left their dugout canoes at portage sights rather than lug them—another canoe should have been left at the other end of the navigational obstruction by people travelling in the opposite direction.[58] The weight and sturdiness of dugout canoes made them more seaworthy than those of lighter birch bark material, however their shallow drafts and narrow beam still made them prone to tipping in ocean swells. Indians did not mind this danger apparently. From his own experience, Roger Williams described these craft as "oft overset" in the ocean and that his Indian pilots were nonchalantly willing to "swim a mile, yea two or more safe to Land" in such a case. Such poor performance on the open ocean suggests that canoes were better suited and probably designed for inland river travel.[59]

Birch bark canoes were the vessel of choice north of the Merrimack River, and in many ways much superior to dugouts. A canoe made of birch bark weighs only about fifty pounds and

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[57] Lipman, *Saltwater Frontier*, 68; James Rosier, "A True Relation of the Voyage of Captaine George Waymouth" in Henry S. Burrage, ed., *Early English and French Voyages, Chiefly from Hakluyt* 1534–1608 (New York: Scribner's Sons, 1906), 381; Martin Pring, "A Voyage Set Out from the Citie of Bristoll, 1603," in Burrage, *Early English and French Voyages*, 349; John Josselyn, *An Account of Two Voyages to New-England* (London: Giles Widdows, 1674), 110.

[58] William, *Key*, 108–11; Giovanni da Verrazano, "To his Most Serene Majesty the King of France," (1524) in George Parker Winship, ed., *Sailors Narratives of Voyages along the New England Coast, 1524–1624* (Boston: Houghton Mifflin, 1905),18; *Voyages of Samuel de Champlain* 2:73; Jacob M. Orcutt, "Mishoonash in Southern New England: Construction and Use of Dugout Canoes in a Multicultural Context" (MA thesis, University of Massachusetts-Amherst, 2014), 24, 38–39; The practice of borrowing canoes without permission became so rampant that Massachusetts banned the practice in 1673. Nathaniel B. Shurtleff, ed., *Records of the Governor and Company of the Massachusetts Bay in New England* [hereafter Mass Bay Records] (Boston, 1853) 4:574.

[59] Gookin, "Indians of New England," 153; Williams, *Key*, 109.

could be easily carried around waterfalls or rapids by one person. The absence of large birch trees (*betula papyrifera*) in southern New England meant that Indians there lacked the materials to make their own, limiting them to the use of heavier dugouts. Records of Europeans seeing Indians in birch canoes go as far south as New Jersey, but these sightings are extremely rare. The technological sophistication required to make a birch canoe means they were likely invented long after dugouts. This can be seen in Eastern Wabanaki word for canoe *ooraqoo* which literally translates to "hollowed out tree stem." That Wabanakis applied this term to their birch canoes, which they used more often than dugouts, also points to their later arrival.[60]

The construction of a birch canoe entails much more skill than hacking into a log. First, bark is stripped from the birch tree, then heated with water to make it malleable for bending around a lightweight cedar frame. The entire boat is painstakingly stitched together with tree roots then gummed with resin to achieve a watertight seal. Birch bark canoes existed practically wherever birch trees stood across North America, and had different styles. Joseph Francois LaFitau noticed that Wabanakis tailored their canoes to swiftly move across the region's geography, as they were "less high on the sides, smaller, and flatter at the two ends, so they are almost entirely level, because those who travel on small rivers could be inconvenienced or

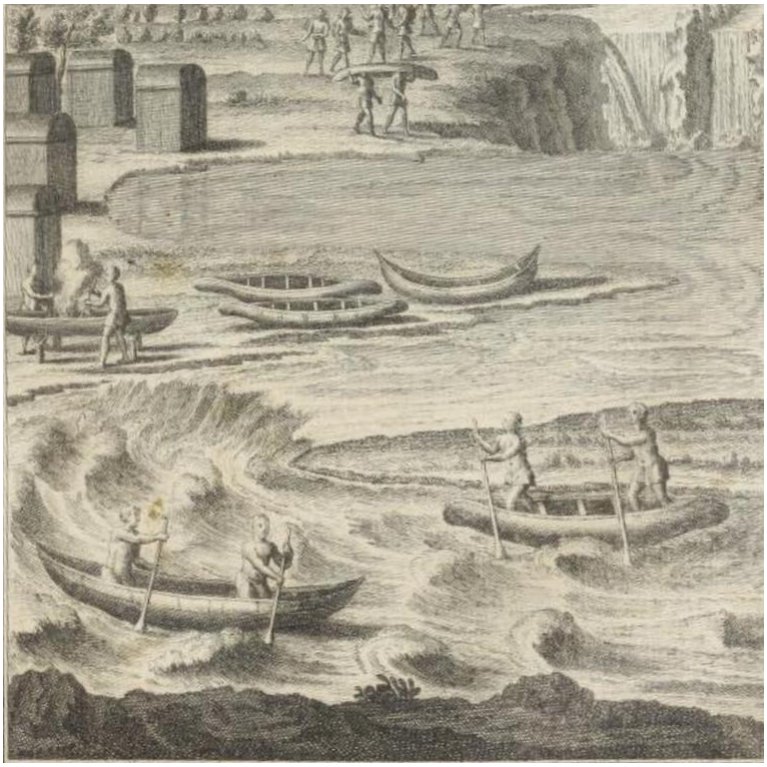

Figure 3 Different Native American canoe designs. Observe men making a dugout to the left and carrying a birch canoe above. LaFitau, *Mœurs*, 2:218.

[60] Salwen, "Indians of Southern New England," 164; Hardy, *Notes on a Lost Flute*, 88–89.

smacked by the branches of trees that border, and extend over the water on both sides of the river." Sebastian Rale marveled that in birch canoes scarcely as thick as the width of a coin Indians "cross the arms of the sea, and sail on the most dangerous rivers, and on lakes from four to five hundred leagues in circumference."[61]

Some have argued that trails became more important thoroughfares than inland waterways in southern New England with the introduction of maize.[62] The caloric boost of corn would loosen the Indian habit of clinging to rivers for food energy. Indeed, that Indian trails in southern New England were longer than those in the north supports this position. Roger Williams attested to have traveled "neere 100. Miles through the woods" with Indians who sustained themselves on dry cornmeal called Nókehick, which they carried in baskets or "a hollow Leather Girdle…sufficient for a man three or foure daies." In addition, southern New England's terrain is considerably less hilly and their dugouts were not nearly as nimble as Wabanaki birch canoes.[63]

However, by looking at a map of southern New England Indian trails one can quickly see waterways were an integral part of the region's communication network. These land routes twist along river valleys or ford waterways at falls and rapids. Even long paths emanating from Massachusetts Bay such as the Old Connecticut Path and the Great Trail terminated at important riverine junctures (Hartford and Albany respectively). Mary Rowlandson's 1675 account of her captivity shows that Indians could travel long distances without maize, and in the depth of winter

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[61] Jean Francois LaFitau, *Mœurs des Sauvages Ameriquains* (Paris: Saugrain, 1724) 2:216; *Jesuit Relations*, 47:139; Morton, *New English Canaan*, 186; Wabanakis also made canoes out of moose hides but were soon repurposed since the climate ruined the hides. In the arctic, skin boats lasted much longer, and thus used more often.
[62] Snow, *Archaeology of New England*, 307; Howard S. Russell, *Indian New England Before the Mayflower* (Hanover, N.H.: University Press of New England, 1980), 200–01; Grandjean, *American Passage*.
[63] Williams, *Key*, 11; Wood, *New-England's Prospect*, 76.

no less. Rowlandson recounted with disgust that her captors ate "that a Hog or a Dog would hardly touch" such as nuts, acorns, roots, and tree bark.[64] Like people today, Indians preferred the route which required the least time and effort. This means that getting from point A to B usually meant a combination of waterways and trails. If one were carrying goods water would make more sense since floating a burden requires less energy than carrying or pulling one.[65] Ultimately, it is probably impossible to tell whether Indians preferred trails or waterways from the archaeological record. We must infer from other clues. That the known locations of Indian summer villages lay along rivers or the coast, likely because they were suitable planting grounds or ideal places to fish, further suggests that the trails connecting them to others in the region complimented rather than replaced more ancient waterway networks.[66]

Fish Runs

The Pocumtucks of the upper Connecticut River Valley and Penobscots of Maine tell a similar story of a beast hording water. When thirsty people start to complain, divine figures intervene to administer justice. In the Pocumtuck version, a giant beaver named *Ktsi Amiskw* dams the river for himself. Creator disapproves and turns the beaver into stone, allowing the water to run free again. For the Penobscots, the dam-building beast is a bloated mud creature. Upon hearing the complaints of the thirsty people, the hero *Gluskap* confronts the beast. When the mud creature refuses to share, *Gluskap* impales him, emancipating the torrent of a mighty

[64] Williams, Key, 11; William Wood, *Wood's New-England's Prospect*, 76; Mary Rowlandson, *The Soveraignty & Goodness of God* (Cambridge, Mass.: Samuel Green, 1682), 61–62. Wickmann, *Snowshoe Country*.
[65] Brooks, *Common Pot*, Map 2.
[66] Southeastern New England was more foot trodden only because it acted as an inlet: it was easier to travel from Massachusetts Bay to the Long Island Sound by portaging across land rather than circumnavigating Cape Cod.

river. Both stories use the metaphor of a river to convey the importance of restoring balance in the world[67]

Algonquian religion valued balance among all living things. New England's natives made no distinction between animals and humans in their cosmology. In the Penobscot version of the *Gluskap* story, the people were so thirsty that they jumped into the river, some of which turned into fish, turtles, and other aquatic animals. Penobscots adopted animal surnames to honor their transformed relatives. Such beliefs demonstrate an awareness of mankind's place within a delicately interconnected environmental system. In a more pragmatic sense, the lesson of the giant beaver and mud creature stories pass on a practical survival strategy: hoarding resources inevitably deprives those in need. Harvesting flora or fauna with reckless abandon meant possible starvation for neighbors or scarcity in future seasons. New England's many rivers were important geographies within the larger interconnected Native cosmology. The canoes which navigated across sacred spaces were often decorated with double curves and triangles which represented the bonds which united the canoe and its passengers with the natural world.[68]

The values of reciprocal distribution and balance permeated Native life. Thomas Morton related that "all things…are used in common amongst them: [if] A bisket cake given to one, that one breakes it equally into so many parts as there be persons in his company, and distributes it." Europeans soon discovered this prodigality was not a one way street: Indians expected generosity. Roger Williams warned prospective colonists that Indians "are very desirous to come

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[67] Brooks, *Common Pot*, 20–21, 42–43; Charles G. Leland, *The Algonquin Legends of New England* (Boston: Houghton, Mifflin, 1884), 114–19.

[68] Merchant, *Ecological Revolutions*, 44–46; Frank G. Speck, *Penobscot Man: The Life History of a Forest Tribe in Maine* (Philadelphia: University of Pennsylvania Press, 1940), 216–17, 159–60; Wabanakis also decorated their canoes with triangles. For possible meaning see Jeanne Morningstar Kent, *The Visual Language of the Wabanaki* (Charleston: History Press, 2014), 50–51, 59–61. Double curves represent balance with the natural world, and triangles could denote a tribe, water, or the mountains from which rivers flowed.

into debt, but then he that trusts them, must sustaine a twofold losse…the most never pay, unlesse a man follow them to their several abodes, townes and houses, as I myself have been forc'd to doe."[69] Indians might have had a difficult time paying debts because they spurned most possessions, preferring "not to bee cumbered with many utensilles" so they could freely roam the country at a moment's notice. Power and prestige in Native society was derived in the relationships formed through acts of giving and receiving, not in the actual possessing of things. A wealthy Indian was one who had the ability to give away more. The spring fish runs in New England's rivers were a moment of exceptional abundance, with more than enough to go around. When Indians gathered at waterfalls to catch these fish, the swarms of alewives and salmon acted as a social leveler, making it an ideal occasion for Indians to celebrate their communitarian ethos.[70]

The arrival of fish each spring up New England's many rivers was an important moment in indigenous people's calendar. An awesome sight greeted those standing on the river's edge in April and May. Eager Indians hurriedly broke from the isolation of their winter hunting camps and rushed to their fishing places beside waterfalls. Winter was the leanest time of the year, especially for those without stores of maize in the north. By April, Indians were likely stricken with a crazed hunger. Months of isolation in hunting camps also must have given them a serious case of cabin-fever as well. Bystanders beheld millions of thrashing fish surge upriver. One observer boasted "one should not throw a stone in the water but that hee should hit a fish" adding, "it seemed to mee that one might go over their backs drishod." Indian place names near waterfalls give credence to this bounty: fish were apparently so easy to catch at "Wussquamhegonset" in northern Maine and "Atgatogwisas" in western Massachusetts that their

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[69] Thomas Morton, *New English Canaan*, 137; Willliams, *Key*, 70, 168.
[70] Morton, *New English Canaan*, 177.

names mean "scoop up fish in basket." The loneliness and scarcity of winter was almost instantly replaced by crowds of people congregating around the abundance of fish. Indians gathered at places where alewives, bass, salmon, sturgeon, and other species could easily be snatched in hordes at waterfalls with spears, baskets, or weirs made of net or stone.[71]

The abundance of caloric energy after months of veritable blackout conditions during winter made the arrival of river fish an exceptional time of celebration and merriment. Scouting for potential converts along the Merrimac River, missionary John Eliot compared the "confluence" of Indians by the Pawtucket Falls to "Faires in England." The stern Puritan observed "gaming and much evill at those great meetings." Another saw Indians "playing of juglinge trickes and all manner of Revelles." Leery Puritan colonists interpreted many of these activities as sinful and thus tried to keep their distance. Some apparently wandered close enough to watch Indian dice games, the high stakes of which clearly astonished them as they saw men literally lose their shirts gambling "away all they have." The loser's sorrow would be tempered when ensuing gamblers also became divested of their possessions and joined their destitute state. Roger Williams observed a harvest leveling ritual called Keesaqúunnamun where an audience of thousands lavished a dancer with wampum, garments, knives, or anything he was "able to reach." This dancer then distributed these items to impoverished onlookers shouting "Cowequetúmmous" which Williams translated as "I beseech you." While gorging themselves

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[71] Morton, *New English Canaan*, 222; Biard, *Relation*, 44; Wood, *New England's Prospect*, 38; Josselyn, *Account of Two Voyages*, 85; Huden, *Indian Place Names*, 35, 203, 296; Samuel Hopkins Emery, *History of Taunton, Massachusetts* (Syracuse: D. Mason, 1893), 99–100; It seems river fishing was a gendered activity. In southern New England the men fished while the women planted corn, while in the north the men also fished, while the women focused on catching birds. Williams, *Key*, 99; Cronon, *Changes in the Land*, 39–40; In 1804, James Sullivan writes of the Penobscot Indians of eastern Maine: "The sturgeon, the salmon, and the great fish, the men will condescend to take, but they feel themselves above the taking of small fish: the catching of shad and alewives they make the business of their women and children." CMassHS 1st ser., 9:228; Boys caught fish in shallow rivers by shooting them with a bow. Edward Johnson, "Johnson's Wonder-Working Providence," in J. Franklin Jameson, ed., *Original Narratives of Early American History*, (1654 repr., New York: Charles Scribner, 1910), 263.

on the abundance tasty fish protein, New England's Native peoples engaged in pastimes such as these which reinforced their spiritual values of balance and equal distribution told in their *Gluskap* and *Ktsi Amiskw* stories.[72]

Fish runs were not always happy, carefree moments. As a coveted food source, fishing rights at these waterfalls were often contested between Native groups. Algonquian names for river spaces sometimes refer to their importance as boundaries. For example, Chabanakongkomuk near Worcester, Massachusetts means "place of separation where we fish" or "you fish on your side, I fish on my side, nobody fish in the middle—no trouble." William Hubbard suggested that such fishing places were seigniorages of certain tribes where "friends and allyes of the neighboring provinces" were permitted to gather.[73] A confrontation between groups over rights to the fish at a waterfall or an especially productive weir might have been resolved with feats of skill to brandish spiritual power. Along with gambling, Europeans observed competitive sports at these spring fish gatherings, noting the intensity in their "striving to surpasse each other." Victory in gambling or games, not unlike in European culture, denoted spiritual power or favor. The outcome of these seemingly light-hearted revelries under a waterfall could have the grave implications of determining who would eat and who would smart from the aching pangs of hunger a bit longer.[74]

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[72] Edward Winslow, The Glorious Progress of the Gospel amongst the Indians in New England," (1649) in CMassHS 3rd ser., 4:82; Morton, *New English Canaan*, 138, 222; Edward Winslow, *Glorious Progress of the Gospel Amongst the Indians of New England* (London: Hannah Allen, 1649), 9; Gookin, "Indians in New England," 153; Gyles, *Memoirs*, 29–31; Jackson Lears, *Something for Nothing: Luck in America* (New York: Viking, 2003), 40; Williams, *Key*, 179–81.

[73] Huden, *Indian Place Names*, 46–47; Morton, *New English Canaan*, 222; Hubbard, *General History*, 30; "their hunting ground and streams were all parcelled out to certain families, time out of mind." Joseph Chadwick, "An Account of a Journey from Fort Pownal up the Penobscot River to Quebec, in 1764" *Bangor Historical Magazine* 4, no. 8 (1889): 143.

[74] Chilton, "Social Complexity," 150; Warfare seems to have began, or at least intensified in the seventeenth century. Bragdon, *Southern New England, 1500–1650*, 149.

Sometimes encounters at productive river sites could become violent. As the population of Ninnimissinuok peoples grew around Narragansett Bay courtesy of intensive maize agriculture, the swelling numbers put pressure on other resources. Such factors may have played a role in a battle fought in view of the Shannock Falls on the Pawcatuck River in Rhode Island. A stone marker beside the Shannock Falls commemorates a "fierce battle" likely fought sometime in the sixteenth century between Pequots and Narragansetts "for possession of the fishing falls." Evidence of this violent precontact encounter seems to have been passed down orally. Such stories were substantiated by farmers who uncovered skeletal remains while plowing their fields near the falls well into the nineteenth century.[75] Although the details remain fuzzy, the stories passed down and bones dug up near the Shannock Falls is another testament to how important river fisheries were to New England's indigenous peoples.

When the lands that would be later called New England first came into the sight of Europeans, they saw people primarily congregated along rivers. Indians clung to flowing water because of the energy benefits they captured with weirs, spears, and canoes. Even in maize cultivating regions to the south, seasonal fish protein migrating upriver in spring and downriver in autumn was a crucial calorie boost which sustained them around the lean winter months. Dugout or birch bark canoes allowed Indians to move farther afield with less effort to harvest resources from a diverse array of habitats or trade with outsiders. As other historians have observed, Indian life in New England adopted a strategic mobile survival strategy finely in tune

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[75] David J. Bernstein, *Prehistoric Subsistence on the Southern New England Coast: The Record from Narragansett Bay* (San Diego: Academic Press, 1993); Frederic Denison, *Westerly (Rhode Island) and Its Witnesses* (Providence, 1878), 24. Some assert that the confrontation at Shannock Falls occurred in 1636 during the Pequot War. However, people likely draw this conclusion from the dates embossed on the Rhode Island historical marker which indicate the founding of Rhode Island Colony in 1636. There is no evidence that such a battle occurred at Shannock Falls during the Pequot War.

with seasonal energy flows. Waterpower coursed through the physical and spiritual center of this survival strategy.

Precontact Europe

European explorers were awestruck by New England's free-flowing, fish-choked rivers because the scene they had grown up with was much different. Such abundance was unexpected since Europe's rivers had been practically devoid of fish the prior four centuries, leading seventeenth-century chronicler William Hubbard to boast "Few countries [as New England] have such an advantage."[76] The rivers of John Smith and Roger Williams' childhoods in northwestern Europe were filled with silt, choked with milldams, and largely devoid of fish. However, if these Europeans could have seen only a few hundred years back into their own history, they might have been equally awestruck to see that their own rivers were once also unimpeded and full of fish. The expansion of commerce, explosion in population, and introduction of watermill technology in the medieval period so radically transformed Europe's waterways by the sixteenth century that European explorers to America lacked the historical memory to see those similarities. The human transformation of Europe's riverscapes would reflect the cultural assumptions with which colonizers would interpret the utility of America's rivers.

Transport

Following the inclinations of people the world over, Europeans flocked to rivers. The reasons have been presented before, but bear briefly reiterating. Flowing water granted life, better crop yields, and greater mobility. Moving across space—especially when burdened with

[76] William Hubbard, *General History*, 80.

goods—is more efficiently accomplished floating rather than walking. The European river experience is an appropriate analog to northeastern North America because of geographic similarities which make the benefits of water travel especially stark. Glaciers pummeled northern Europe from southern England east to Poland as recently as 21,000 years ago. The torn landscape left in their wake was difficult to traverse by foot. Like New England, most of Europe is a temperate ecosystem supplied with abundant rainfall, so rivers and watery spaces abound.[77] Just as in Native America, European waterways were usually the most energy-efficient thoroughfares to carry goods and people across space.

The design of ancient European watercraft shows that the prehistoric trade routes which crisscrossed the continent traced rivers. Excavations of Celtic boats reveal a tradition of flat-bottomed hull construction which made their vessels capable of navigating both streams as well as open water. Many of the Bronze Age hillforts in Britain overlooked strategic portages on riverine networks. The Sami of Scandinavia made light spruce boats which they stitched together in a fashion redolent of Native American birch bark canoes. These boats, much like those of the Celts to their southwest, were designed to transverse coasts and inland waterways. Archeological evidence suggests that the iconic sleighs of that north country are descendants of these stitched boats, which could either be lifted or dragged if there was sufficient snow or ice cover. In the tenth century, Constantine VII observed the arrival of Russians in Constantinople who had drifted down the Dnieper River in "monoxyla"—likely dugout canoes. These vessels were nimble enough to be portaged "on their shoulders" around rapids and sufficiently seaworthy to ride the gut-churning swells of the Black Sea.[78] Vikings incorporated the portability of these

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[77] Hynes, *Ecology of Running Waters*, 337–38.
[78] A. Sherrat, "Why Wessex? The Avon Route, and River Transport in Later British Prehistory," *Oxford Journal of Archeology* 15, no. 2 (1996); Michael McCormick, *Origins of the European Economy: Communications and*

boats into their infamous longships; with which they terrorized not only distant European coastlines but also far up French and British rivers during the ninth through eleventh centuries.[79]

European rivercraft transformed once commercial activity increased. When parts of France and Britain entered Rome's vast trade network, local resources transformed into valued commodities for distant reaches of the empire. The Danube, Rhone, and Rhine Rivers became major corridors of long distance trade. Barge-like vessels appeared alongside more traditional dugouts to accommodate the quantity of these new market demands. These rivercraft could accommodate much higher volumes of freight, but required deep, wide channels to move. Rivers are characteristically fickle as they tumble over hundreds or thousands of miles of varying terrain; insufficient rainfall or the emergence of sandbars could arrest the entire artery as these larger vessels were too heavy to move around them. Romans altered the riverscape by constructing canals in an effort to add some predictability to these riverine networks.[80]

Historians fiercely debate the extent to which medieval Europeans preferred river to overland travel.[81] For our purposes, it will suffice to say that preference for river travel was contingent on local contexts. On the one hand drifting down a river protected wayfarers from the occasional "brigandage" which plagued overland travel, especially at night. On the other hand,

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Commerce, AD 300–900 (Cambridge: Cambridge University Press, 2001), 74, 400; Christer Westerdahl, "Amphibian Transport Systems in Northern Europe: A Survey of a Medieval Pattern of Life," *Fennoscandia Archaeologica* 13 (1996), 69–72. When people wrote observations of these boats in the sixteenth century, they likened going north to traveling backward in time, and may accurately reflect how European craft south of the Baltic may have looked as well; Moravcsik Gy, ed., *Constantine Porphyrogenitus De Administrando Imperio*, trans. by R. J. H. Jenkins (Washington, D. C.: Dumbarton Oaks Center for Byzantine Studies, 1967), 57–63.

[79] Vikings surprised unwitting victims deep into France and Britain by navigating far up rivers. In France nobles built bridges largely to slow Viking advances. P. H. Sawyer, *Kings and Vikings: Scandinavia and Europe* (London: Routledge, 1983), 81–87.

[80] James Bond, "Canal Construction: An Introductory Review," in John Blair, ed., *Waterways and Canal-Building in Medieval England* (Oxford: Oxford University Press, 2007), 158–69; Prudence J. Jones, *Reading Rivers in Roman Literature and Culture* (Lanham, Md.: Lexington Books, 2005).

[81] J. F. Edwards and B. P. Hindle, "The Transportation System of Medieval England and Wales," *Journal of Historical Geography* 17 (1991): 123–34; J. Langdon, "Inland Water Transport in Medieval England," *Journal of Historical Geography* 19 (1993): 1–11.

the predetermined nature of a river route left people susceptible to attack from a sizeable force which chose to blockade or demand payment to pass. The inflexibility of this high volume river trade made it particularly vulnerable to political hazards. When the Roman Empire lost control of the Danube and Rhine, trading along those rivers became a dangerous proposition in the region's uncertain political climate. As a result, and with few exceptions, human riverine activity through the early medieval period was not intense enough to disrupt the ecological state of inland waterways.[82]

European peoples' interactions with rivers changed profoundly around the dawn of the tenth century with the appearance of water powered mills in France and Britain. Romans utilized watermill technology but the waterwheels disappeared from northern Europe following the collapse of their empire. Largely under the lead of monastic orders, small watermills for grinding grain appeared around the ninth century. Marc Bloch argued that the impetus for the reappearance of mills had much to do with controlling the peasant class. Landowners, of which the monastic orders were a sizeable part, owned the rights to these watermills, who charged their tenants to grind their grain. These mills concentrated a landowner's power over peasants in two ways. First, they provided a new revenue source. Second, mill-harnessed river energy reduced labor costs, which decreased their dependence on hired help. Landowners made use of their mill compulsory: peasants caught using contraband hand mills to bypass their lord's mill toll faced severe punishment, sometimes execution. Water and windmills thus became an intrinsic element of aristocratic social control in the feudal system and a ubiquitous feature on France and

[82] James Bromwich, *The Roman Remains of Northern and Eastern France* (London: Routledge 2003), 255–59; Ellen F. Arnold, "Rivers of Risk and Redemption in Gregory of Tours' Writings," *Speculum* 92, no. 1 (2017): 117–43.

England's riverscapes by the eleventh century.[83] Nobles retained their exclusive mill privileges into the eighteenth century in France, and into the nineteenth century in Germany. Gristmills gleaned two valences of waterpower for their medieval owners: one in the form of mechanical power which lessened the burden on human muscles, the other in social power which was exercised on those who did not possess access to this converted river energy.[84]

Although mills altered how humans interacted with rivers, they did not initially disrupt previous uses or singlehandedly alter those streams' ecological health. The medieval gristmill required a fall of only five to twenty-five feet to generate sufficient power to rotate its massive grindstones. Consequently, only small streams or brooks were impeded. Operation of these mills depended on a healthy jet of water and were only capable of converting a river's flowing energy on a temporary basis during moments of high flow. Medieval mills did not prove to be daunting obstacles for fish or boats either. Milldams on these streams could either be surmounted by migrating fish or opened during their spawning seasons. Records show that riverboats floated down or winched over milldams on a regular basis.[85]

Serious degradation of European rivers came with population growth. Between the tenth and fifteenth century, Europe's population spiked from 35 to 80 million (compare this to optimistic estimates of 12 million in North America at that time). The precise causes of this growth are fiercely debated, but a warming climate and improvements in agricultural methods

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[83] Marc Bloch, "The Advent and Triumph of the Watermill" in *Land and Work in Medieval Europe*, trans. by J. E. Anderson (New York: Harper & Row, 1967), 136–69; Terry S. Reynolds, *Stronger Than a Hundred Men: A History of the Vertical Water Wheel* (Baltimore: Johns Hopkins University Press, 1983), 52, 105.

[84] Excellent summary of the contentious historiographical debate surrounding the rise of the mill in medieval Europe in Adam Lucas, *Wind, Water, Work: Ancient and Medieval Milling Technology* (Leiden: Brill, 2006), 159–79; Shana Worthen, "Of Mills and Meaning," in ed. Steven A. Walton, *Wind & Water in the Middle Ages: Fluid Technologies from Antiquity to the Renaissance* (Tempe: Arizona Center for Medieval and Renaissance Studies, 2006), 259–82.

[85] Hunter, *Waterpower*, 62–63; Reynolds, *Stronger Than A Hundred Men*, 52; Paolo Squatriti, *Water and Society in Early Medieval Italy, AD 400–1000* (Cambridge: Cambridge University Press, 2002).

seem to be important factors. Regardless, the increased prosperity which enabled population growth spurred an uptick in economic activity as well. Greater population meant bringing more land under cultivation, and bridling more streams with mills.[86] Prosperity and relative peace allowed for long distance trade and regional specialization. Europeans first turned to rivers as their ancestors had to facilitate commerce. In Scandinavia, people found timber to be their most coveted commodity—since it was easier to float logs than lug them to the sea coast for trade, deforestation occurred first along river valleys. One of the greatest manifestations of this wider European phenomenon of commercial expansion was the Hanseatic League around the Baltic Sea. The League's trading centers revolved around new towns which emerged at river mouths such as Riga, Talin, Kaliningrad, and Gdansk. The ships which carried on this trade were flat-bottomed ships called cogs designed to travel farther up rivers as well across seas from Russia to England. Although they were not as nimble as the Viking ships before them, they could hold more cargo by a factor of ten.[87] The scene was not much different in northern France, as people embarked on coordinated attempts to improve navigation on its river systems in the thirteenth and fourteenth centuries to accommodate booming commercial activity.[88]

Increasing population and trade placed greater demands on waterpower which drastically altered the ecological state of Europe's rivers by the fourteenth century. When people cleared forest for cultivation, they unknowingly accelerated erosion rates. Vegetation catches rainfall and helps soil absorb moisture, allowing for a consistent supply of water. When medieval Europeans

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[86] William Chester Jordan, *Europe in the High Middle Ages* (New York: Penguin, 2003), 7–12; John D. Daniels, "The Indian Population of North America in 1492," *William and Mary Quarterly* 49, no. 2 (1992): 300.
[87] Mike Burkhardt, "Kontors and Outposts" in Donald J. Herreld, ed., *A Companion to the Hanseatic League* (Leiden: Brill, 2015), 153; Carston Jahnke, "The Baltic Trade" in Ibid., 197, 224; 118; Brian Fagan, *Fish on Friday: Feasting, Fasting, and the Discovery of the New World (*New York: Basic Books, 2006).
[88] Robert-Henri Bautier, "L'authentification des actes privés dan la France médiévale: notoriat public et jurisdiction gracieuse," in Robert Henri-Bautier, *Chartes, sceaux et chancelleries: Etudes de diplomatique et de sigillographie médiévales* (Paris, 1990), 1:269–340.

cut down this forest cover, water barreled downward carrying soil with it which crashed in prodigious amounts into riverbeds. Accumulations of silt rendered many waterways unpassable. Hanseatic ports such as Boston (England), Bruges, and Bremen were ruined when their rivers almost literally dried up.[89] The number of mills increased to serve the grinding needs of the growing population. Milldams spanned more streams, which reduced fish habitat by blocking fish outright or slowed water flow—this increased siltation also warmed water temperatures beyond what fish could bear.[90]

Christian penance also contributed to the ecological destruction. The medieval church forbade the consumption of meat on Fridays, holy days, as well as the month-long season of Lent. However, fish were made an exception to this rule. Since fish meat is considerably more calorie dense and tastier than plants, the demand for fish grew with the population. As fish stocks declined, they increasingly became a status symbol for the wealthy seeking the most palatable route to piety.[91] River fish were particularly easy prey since it took little effort to collect them in weirs or at waterfalls. In the face of declining numbers, German lords tried to secure exclusive fishing rights to rivers on their land, but were persistently resisted by peasants who saw river fish as a common resource. By 1289, Philip IV of France could complain that "every river and waterside of our realm, large and small, yields nothing due to the evil of the fishers and the devices of [their] contriving." These devices, sometimes referred to as "engines," were large fish weirs which caught fish in nets. In 1224–1225, 1285, 1389, and 1393 the English Parliament passed resolutions to dismantle such weirs or prevent the harvesting of young fish. Yet, the

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[89] Ellen E. Wohl, *Disconnected Rivers: Linking Rivers to Landscapes* (New Haven, Conn.: Yale University Press, 2004), 43; John Lewin, "Medieval Environmental Impacts and Feedbacks: The Lowland Floodplains of England and Wales," *Geoarchaeology* 25, no. 3 (2010): 267–311.
[90] H. J. R. Lenders, T. P. M. Chamuleau, A. J. Hendricks, R. C. G. M. Lauwerier, R. S. E. W. Leuven, and W. C. E. P. Verberk, "Historical Rise of Waterpower Initiated the Collapse of Salmon Stocks," *Scientific Reports* 6 (Feb. 2016).
[91] Brian Fagan, *Fish on Friday*, 22–23, 41–42.

commodification of the fish and their growing value incentivized fishermen to ignore the law and persist. The pursuit of fish became so intense it practically emptied European offshore fishing grounds by the fifteenth century, pushing intrepid fishermen across the horizon toward America in search of profits. River fish were comparatively "low hanging fruit," and driven to near extinction well before. It is hard to imagine how Massachusetts colonist Thomas Morton felt when he saw innumerable Sturgeon pulsing up New England's rivers in the 1630s. For, as he pointed out, catching a single sturgeon in the Thames River was so rare back in England that it was deemed the "King's Fish" and delivered to the monarch in grand ceremony. By the fifteenth century mounting human activity on European rivers depleted them of fish and fouled their waters to beyond the point of recognition just three hundred years earlier.[92]

When seventeenth-century European explorers arrived in New England they interpreted the scenery through the cultural expectations they acquired growing up in places like England or France. Some things were very familiar. John Josselyn compared the fishing in New England to Sussex, having personally known of 196 "Pikes and Pickarel taken with three Angles…in the River Owse" in the span of seven hours.[93] However, this abundance was a far cry from the ten thousand alewives he saw two Americans catch in two hours. If these Americans Josselyn observed were Indians, they would have used their catch to feed themselves and their community. If they were European colonists, it is more likely they had different intentions. For these men would have known of the high price fish commanded back home. This European conception of nature as commodifiable resources for distant consumers transformed their

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[92] W. Jeffrey Bolster, *The Mortal Sea: Fishing the Atlantic in the Age of Sail* (Cambridge, Mass.: Harvard University Press, 2012), 27–34; Morton, *New English Canaan*, 223–24. Richard C. Hoffman, "Economic Development and Aquatic Ecosystems in Medieval Europe," *American Historical Review* 101, no. 3 (June 1996), 631–69.
[93] John Josselyn, *Two Voyages*, 108.

environment, and their rivers in particular, after only a few hundred years. The sight of New England's crystal-clear, fish-choked waters must have appeared to them in mythical proportions.

Pausing at the moment just before Europeans and New England's Native Americans began to interact with one another, it is quite clear that they were very different people, and those differences could be seen in how each interacted with rivers. New England's rivers probably looked much like European rivers before 900: used for travel, full of fish weirs, and ideal ground for agriculture. The introduction of mechanistic power in the form of mills and the commodification of fish for distant markets radically altered Europe's riverscapes by concentrating waterpower at particular sites. For both Europeans and Native Americans, the harnessing of river energy stood at a crucial position in their economic systems. For Europeans, their extractive conception of nature was visible in their farming, milling, and lumbering practices, just as the Native American cosmology rooted in interconnectedness could be seen in their appreciation of the diffuse properties found in river water. When colonists landed on the American shore they sought to replicate European practices. Although Native Americans would be amenable to some of these changes, their mobile economy would come under strain, and eventually lead to confrontation. Because rivers lay at the center of both Native and European survival strategies, much of the action would be there.

Appendix

The following plates by H. L. Todd in George Brown Goode, *Fish and Fisheries of the United States* (Washington DC: Government Printing Office, 1884), section I.

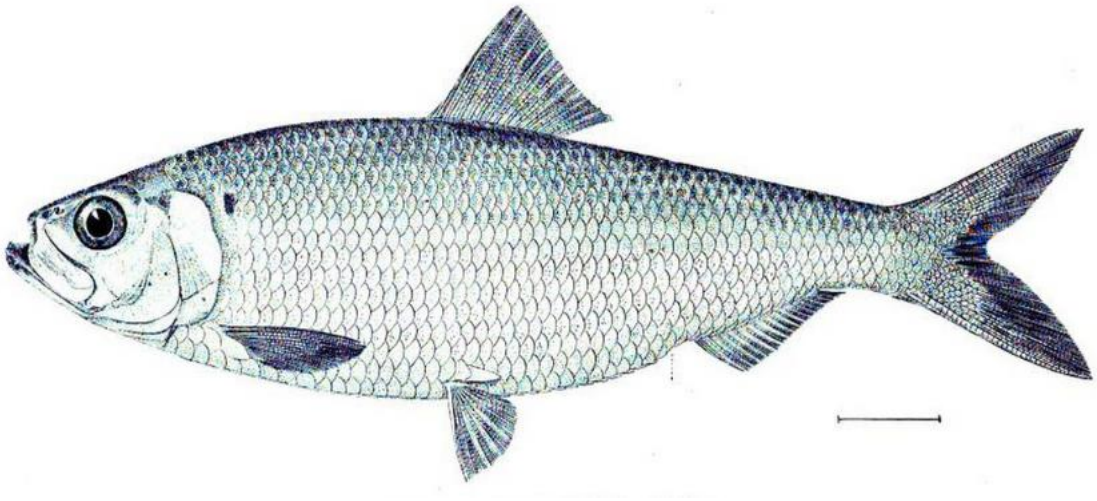

Figure 4 Alewife (*Alosa pseudoharengus*), Plate 208. Alewives likely receive their name from comparisons to corpulent beer dispensers in Britain. "The Alewife is like a herrin, but a has a bigger bellie therefore called an Alewife." Josselyn, *Two Voyages*, 107; Judith M. Bennett, *Ale, Beer, and Brewsters in England: Women's Work in a Changing World, 1300–1600* (Oxford: Oxford University Press, 1996).

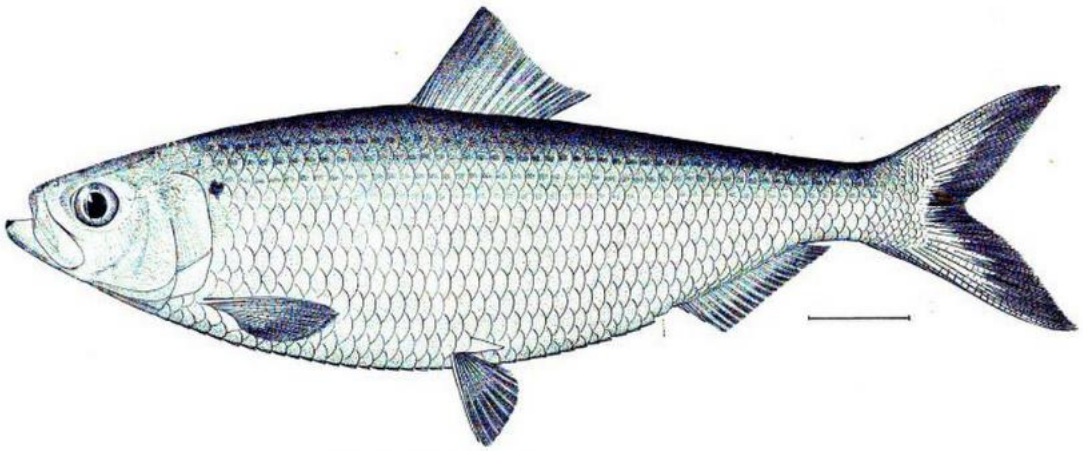

Figure 5 Blueback Herring (*Alosa aestivalis*), Plate 209.

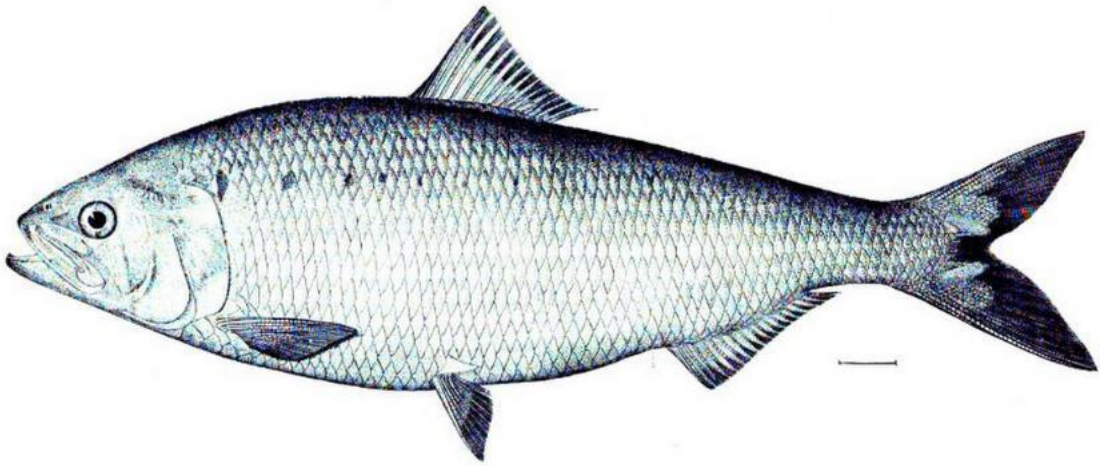

Figure 6 Shad (*Alosa sapidissima*), Plate 212

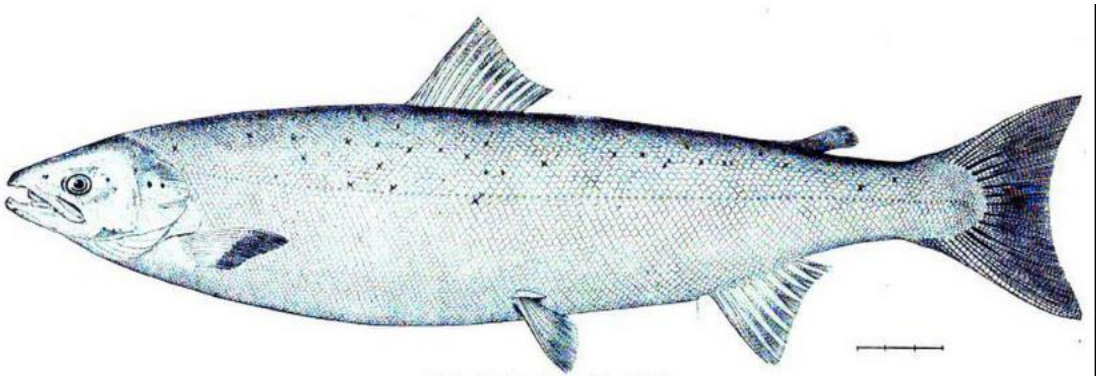

Figure 7 Atlantic Salmon (*Salmo salar*), Plate 186.

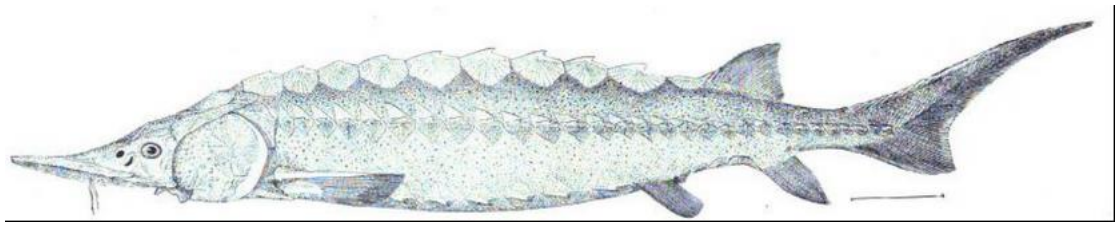

Figure 8 Atlantic Sturgeon (*Acipenser oxyrhynchus oxyrhynchus*), Plate 243.

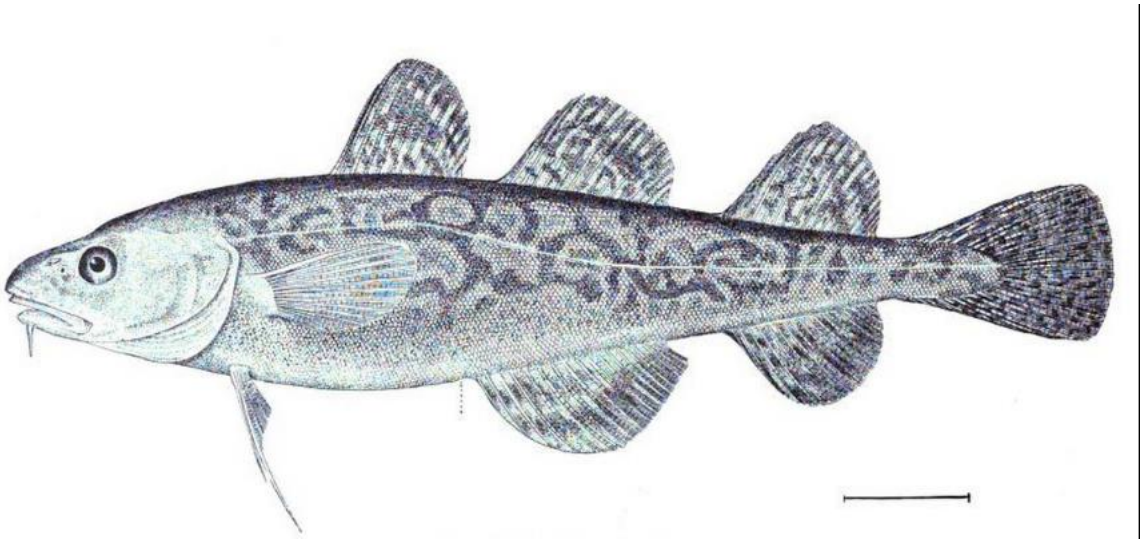

Figure 9 Atlantic Tomcod (*Microgadus tomcod*), Plate 58B.

Chapter 1: "Lords of Navigation": Contact and Coexistence along New England's Rivers

"He cutteth out rivers among the rocks; and his eye seeth every precious thing." Job 28:10

A 1670 map of the Piscataqua River attributed to John Scott includes an acrostic to King James II, a portion of which reads "Serenest Prince I hear (unto your eye) | Declare (by Mapp) how England's strength doth lye | Unseene in Rivers of the New Plantations | Kingly Commanding Heads of other Nations." The map itself reinforces this claim as English homes and mills tightly trace the veins of the Piscataqua and its tributaries. Scott's 1670 map of a prosperous New Hampshire colony depicts not only the success of English colonization, but also the strategy behind that success. "England's strength" depended on harvesting, processing, and transporting commodities to European markets. Positioned at the mouths of rivers, colonists, at least theoretically, could command the "Heads" of Indian nations by controlling the flow of trade to and from Atlantic markets. As Scott rhapsodized, the "Unseene" energy of rivers enabled the extraction of the furs and lumber which made New England a viable commercial enterprise.[94]

The first century of European contact in New England was marked by relatively peaceful interactions between Indians and colonists.[95] While Native peoples recoiled from the impact of European diseases they largely welcomed the changes brought by European technology and trade. English colonists also adopted Indian technologies and knowledges as they struggled to

[94] J. S., Pascatway River in New England, circa 1670, Baxter Rare Maps, Maine Historical Society. It is important to mention many of the English communities in this map would be destroyed in seven years, indicating that the statements about control were largely illusory.
[95] Alden T. Vaughan, *New England Frontier: Puritans and Indians, 1620–1675* (Boston: Little, Brown, 1965).

survive in an unfamiliar land.[96] Although Native Americans and Europeans interacted peaceably, competition within these groups was intense. Native Americans sought to corner access to European trade goods in order to subject rival Indian polities. Europeans likewise jockeyed for position up American waterways in an effort to monopolize the flow of the region's inland commodities into their own coffers. Riverine spaces quickly became important sites in these intra-cultural contests.

Waterways pushed and buoyed passengers through New England's rough terrain and thus were the preferred highways. Indians seeking trade with Europeans moved downriver to coastal contact zones. Europeans, desperately seeking profitable resources to carry across the Atlantic, recognized that plunging up rivers would be the cheapest and safest method to reach animal pelts, lumber, and other yet undiscovered riches. As the rate of trade increased at the opening of the seventeenth century, people came to understand that whoever controlled access to New England's waterways also would dominate the trade or extraction of the region's resources.

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[96] Colin G. Calloway, *New Worlds for All: Indians, Europeans, and the Remaking of Early America* (Baltimore: Johns Hopkins University Press, 1998); Joyce E. Chaplin, *Subject Matter: Technology, the Body, and Science on the Anglo-American Frontier, 1500–1676* (Cambridge, Mass.: Harvard University Press, 2001); Neal Salisbury, *Manitou and Providence: Indians, Europeans, and the Making of New England* (Oxford: Oxford University Press, 1982).

People threatened, litigated, and killed one another in pursuit of riverine supremacy. They also adopted nautical technologies to better traverse New England's unpredictable riverscapes, hoping to outpace rivals. Mastering the flow of water was imperative for the diverse array of characters struggling to get ahead in a fraught, hyper-competitive new world

Native peoples and Europeans initially valued the open, free flowing nature of New England's rivers because the trade and food they derived from water sustained both of their communities. Waterways made it easier for Native peoples to cover more ground to trap animals that Europeans desire. They also allow Indians far from the coast to trade with Europeans for goods imbued with martial and spiritual power. Although the first European colonists found the state of New England's many rivers very different from their home, they embraced Native relationships with rivers. Colonists floated in rivercraft of indigenous design suited for New England's dynamic riverscapes, fertilized their crops with river fish, and depended on fish to survive during the many times starvation stared in the face.

While the flow of rivers remained relatively unaltered during the encounter period of the sixteenth and early seventeenth century, the activity of the living creatures in and around them changed drastically. Europeans brought trade items Native peoples embraced which they paid for by putting more pressure on fur-bearing animals, most notably the beaver. River fish at higher rates as they were netted, pickled, barreled, and sent to the Atlantic fish market. Despite Native American and European populations being quite low, the decline of river fisheries as a result of of these new practices could be seen in New England as early as the 1670s.

The European vision which motivated colonization schemes in North America entailed acquiring or growing saleable commodities for European markets. The English sought to replicate Spanish success in the Americas, or as Richard Hakluyt the Elder put it "1. To plant

Christian religion. 2. To trafficke. 3. To conquer." Regardless the sincerity of their evangelical zeal, the second of Hakluyt's stated purposes "To trafficke" or trade was of overriding concern since even the most pious colonial projects needed profits to compensate investors funding their enterprise. Romantic notions of a speedy conquest of Native peoples like in Mexico or Peru were quickly corrected by hard experiences in Virginia and Maine. North American Indians lacked the large central cities encountered by the conquistadors. As a result, Native peoples could simply move beyond the reach of English colonists if they ran afoul of them. The colonists' own ineptitude would expedite their removal through starvation. Early English colonial enterprises in North America failed largely because colonists were more concerned uncovering "Profits" in the land than finding food to eat. Sixteenth-century English colonization boosters such as Samuel Purchas hoped that mineral wealth lay just below North America's surface, just as the Spanish had found in Mexico and the Andes. This naivety can be seen in the first vocation Richard Hakluyt listed as necessary for a colonial venture in Virginia were "Men skilfull in all mineral causes," or miners.[97] Such a misconception often proved fatal when early English adventurers to America concentrated on harvesting precious rocks instead of food.

The first English colony in New England made it very apparent that the land was not comparable to Spain's American possessions. In 1607, The Plymouth Company under the direction of George Popham established a small fort at the mouth of the Kennebec River in what is now Maine. Encouraged by Spanish precedent of discovering literally mountains of mineral wealth, English colonists initially expected to find something similar. They were sorely

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[97] Samuel Purchase, *Purchase His Pilgrimage* (London: Henrie Fetherstone, 1614), 722; Richard Hakluyt, "Pamphlet for the Virginia Enterprise" in *The Original Writings & Correspondence of the Two Richard Hakluyts* (London: Hakluyt Society, 1935), 1:336; A listing of commodities during George Weymouth's voyage to New England demonstrates how Europeans interpreted and compartmentalized the environment. James Rosier, "A True Relation of the Voyage of Captaine George Waymouth" in Burrage, *Early English and French Voyages*, 393–94; Cronon, *Changes in the Land*, 76.

disappointed. Popham's colony turned to furs as the next likely commodity in the region. Basque and Breton fishermen had brought back beaver, otter, and mink pelts from northeastern North America in the sixteenth century. Much like fish, many of Europe's hirsute mammalian species had been hunted to extinction in the previous centuries. The English paid exorbitant prices for pelts and furs sourced in the Baltic market to satisfy fashion trends. Consequently, explorers quickly identified "Buffe hides" as a potential lucrative commodity in northeastern North America.[98] However, being wholly ignorant of the interior, they lacked the wherewithal to trap these animals themselves. Early fur traders confidently assumed that pelts could be acquired for trifles in trade with the local Indians ignorant of their value in Europe. The easiest and safest way to reach the interior was to sail up the region's rivers. The St. Lawrence and Hudson Rivers provided the best ingress points for ocean-going ships. Just as the Europeans employed wind energy to push them to the Americas, they would use the kinetic power of rivers to pull them toward the continent's riches in the interior.[99]

Colonial theorists writing decades before settlements like Jamestown or Popham understood that controlling watery spaces would be crucial for establishing any toehold in North America. Exploration along the coasts gave Europeans the impression that "no part of the World hath so many, so great Lakes, and Rivers," many of which appeared large enough for ships. Economically, Richard Hakluyt the Elder hoped "rivers so great and deepe, do yeeld no small benefit for the sure, safe, easie and cheape carriage" of commodities "be it of great bulke or great weight." Encouraged by past experiences on the coasts of Africa and the Americas, Hakluyt believed European nautical superiority was beyond question, and assumed that the English

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[98] "Letter from Richard Hakluyt to Sir Francis Walsingham, 1584" in *Two Richard Hakluyts*, 1:205–06.

[99] For a useful comparison on energy's limiting effect on trade, see George Colpitts, "Food Energy and the Expansion of the Canadian Fur Trade" in *Powering Up Canada: A History of Power, Fuel, and Energy from 1600*, ed. R. W. Sandell (Montreal: Mcgill-Queen's University Press, 2016), 363–402.

would be “lords of navigation” in North America as well. Rivers in particular were the spaces from which the English would extend their dominion from the sea to the land. Harnessing wind and water power to float swiftly along waterways, the land-lubberly English could “annoy” hostile Indians “in many places” along the water. Diplomatically, they could sow confusion among their Indian enemies by pitting the numerous “Petie kings or lords planted on the rivers sides” against another. The ability to move faster across space than Indians would enable conquest by compromising what the English perceived to be slower Native communication networks. Finally, “The knowen abundance of Fresh fish in the rivers” would provide an easy source of food during lean times.[100]

New England’s riverscape confounded European expectations and consequently posed a serious challenge to their plans to colonize. Unlike Virginia and other southern colonies which sloped gently upward from the coast, explorers found “a more elevated country” in New England, rendering the waterways flowing from the interior steeper and unnavigable for larger European ships.[101] Once on these inland waterways, Europeans quickly realized they were not the “lords of navigation” as Hakluyt anticipated either. While Europeans lugged their planked wooden vessels over sandbars and around waterfalls, they saw Indians in canoes gracefully paddling circles around them. Englishmen on George Weymouth’s 1605 expedition on the Maine coast nervously admired as canoes darted and flitted around their small sailboat: “This we noted as we went along, they in their Canoa with three oares, would at their will go ahead of us

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[100] Purchase, *Purchase His Pilgrimage*, 720; "From ech banke of this river are divers branching streames into the maine, whereby is afforded an unspeakable profit by the conveniency of transportation from place to place, which in some countries is both chargeable; and not so fit, by cariages, or horse backe." Rosier, "True Relation," 386; Richard Hakluyt, “Pamphlet for the Virginia Enterprise,” 2:329–30; John Brereton, “A Briefe and True Relation of the Discoverie of the North Part of Virginia. 1602” in *The English New England Voyages 1602–1608*, eds. David B. Quinn and Alison M. Quinn (London: Hakluyt Society, 1983), 179.

[101] “Giovanni da Verrazano, "To his Most Serene Majesty the King of France," (1524) in *Sailors Narratives of Voyages along the New England Coast*, 21; Martin Pring, “A Voyage Set Out from the Citie of Bristoll, 1603” in Burrage, *Early English and French Voyages*, 346.

and about us, when we rowed with eight oares strong; such was their swiftnesse, by reason of the lightnesse and artificiall composition of their Conoa and oares." In Acadia, French priest Pierre Biard also appreciated canoes' distinct advantage traversing American waterscapes, writing "the best part of it is that they can land wherever they like, which we cannot do with our shallops or sailing boats."[102] An awestruck Martin Pring described a seventeen-foot birch bark canoe carrying nine people as "incredible" considering it only weighed sixty pounds. Pring and David Gosnold were so impressed by Indian canoes they brought back examples to England for study.[103] Europeans may have held advantages in nautical technology over Native Americans, especially in long-distance navigation, but not on the rugged terrain of New England's inland waterways.

Europeans cruised along coastlines and cautiously probed up river mouths with smaller rigged ships. Seventeenth-century Europeans seemed to disagree on the definitions of these small to medium-sized vessels because they used terms like "shallop," "bark," and "pinnace" interchangeably. Generally speaking, shallops were open boats outfitted with a single mast and around thirty feet long, weighing a few tons or "just a bit too big to be carried conveniently on all but the largest ships." Pinnaces were larger than shallops, with a deck, often weighing anywhere between 10 and 50 tons, and boasting two or three masts. Although design and size could vary widely for ships with these names, both were valued for their versatility. A shallop or pinnace could comfortably plod the open ocean, venture close to land, or pierce larger waterways with their shallow drafts. Their smaller size also made them amenable to muscular propulsion with

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[102] Rosier, "True Relation," 376–77; Pierre Biard, "Relation de la Novvelle France" in *Jesuit Relations*, 3:83.
[103] Richard Hakluyt, "Pamphlet for the Virginia Enterprise," 2:329; Pring, "A Voyage Set Out from the Citie of Bristoll," 348; "Gabriel Archer's Account of Captain Bartholomew Gosnold's Voyage to 'North Virginia' in 1602" in *The English New England Voyages*, 130.

oars if the wind was not cooperating. Still, the immense weight of even the smallest shallops or pinnaces made them impracticable vehicles for portaging New England's many waterfalls.[104]

For maneuvering the shallower upper reaches of New England's inland waterways, Europeans possessed vessels of more ancient lineage at their disposal. The names and descriptions of medieval rivercraft in the historical record are equally as ambiguous as seventeenth-century references to shallops and pinnaces. Although usually just called *batella* or "boat," names like shout, wherry, fly-boat, and long boat appear in the historical record. These vessels were narrow-ended at the bow and stern and flat bottomed. Although primarily oar-driven, many of these rivercraft stowed masts in their holds which they hoisted to catch favorable breezes. Both their design and plank construction descended from the notoriously nimble Viking longships which terrorized coastal and riverine northwestern European communities for centuries. Many of these rivercraft kept winches and rope handy to surmount the many milldams which crisscrossed streams such as the Thames, Severn, and Ouse in seventeenth-century England.[105]

The earliest European explorers were hesitant to disembark onto their smaller rivercraft when making contact with Natives. Martin Pring compared birch canoes in size to "a Wherrie on the River Thames" except that the Wabanaki vessel was "farre exceeding in bigness those of England" and much lighter. And as George Weymouth's men had discovered, these bark canoes could easily outpace their rowboats. Explorers preferred keeping mysterious Natives at an arms-

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[104] William A. Baker, *The Mayflower and Other Colonial Vessels* (Annapolis, Md.: Naval Institute Press, 1983), 65–117; John Robinson and George Francis Dow, *The Sailing Ships of New England, 1607–1907* (Salem, Mass.: Marine Research Society, 1922) 13–16; Lipman, *Saltwater Frontier*, 63.

[105] John Langdon "The Efficiency of Inland Water Transport in Medieval England" in *Waterways and Canal-Building in Medieval England*, 112–16.

length in their larger craft where they held a numerical superiority. However, these cozy, lumbering sea-going vessels severely limited their ability to reconnoiter beyond the coastline.[106]

An inability to establish a presence on waterways doomed the 1607 Popham expedition. When Raleigh Gilbert ascended the Kennebec River in 1607, it took nineteen men to pull their shallop over a small waterfall with a rope. Gilbert soon encountered Wabanakis upstream. When their Sagamore Sebenoa stepped onboard, Gilbert provided a hostage to ensure the sagmore's safety. The canoe carrying the English hostage "quickly rode from them" upriver. Gilbert's shallop struggled to make chase, and was ultimately stopped by another waterfall, this one steeper "that by noe meanes they could passe any further." In the ensuing meeting along the riverside, Gilbert's men offended the Wabanakis by refusing their gift of "Certayne smale skynns" because they deemed them to be of "no value." In offering these animal hides, Wabanakis were likely trying to establish diplomatic relations with the newcomers, not engage in trade. Sensing "that they had nothing ells wherewith to trade," Gilbert and his men attempted to leave. Some Wabanakis, offended at being so rebuffed, doused a flame on the shallop used for lighting muskets and grabbed hold of the same rope which the English may have used to surmount the falls. Only once Gilbert "caused his Musquettiers to present their pieces" did the Wabanakis relinquish their grip of the rope. With each side staring at the other from the barrel of a loaded gun or a nocked arrow, the shallop slowly slinked back toward the ocean. The encounter between Sebenoa's people and Raleigh Gilbert's crew exposed European nautical shortcomings on river spaces.[107]

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[106] Pring, "A Voyage Set Out from the Citie of Bristoll," 348.
[107] "The Davies Journal of the 1607 North Virginia Voyage" in *The English New England Voyages 1602–1608*, 409–12, 440; Christopher J. Bilodeau, "The Paradox of Sagadahoc: The Popham Colony, 1607-1608," *Early American Studies* 12, no. 1 (2014), 21–22.

Unable to locate commodities and "sorely pinched" by a long winter, the Popham colonists packed up and returned to England almost exactly one year after they arrived. Proprietor Ferdinando Gorges complained that "subtill and conninge" Indians refused to show them "the places, wheare they have comodityes wee seeke for." The English lacked the technology to traverse New England's steep rivers and could not locate potential commodities, or assert a military advantage. They were not the "lords of navigation" as Hakluyt confidently predicted in the sixteenth century. Since colonists were even more hapless and exposed to danger when covering seventeenth-century North America on foot, Indian consent would henceforth be needed to access waterways if they wanted to procure the region's commodities.[108]

Food Power

After the failure of the Popham Colony, future colonists to New England were somewhat wiser in concentrating on survival before looking for commodities to sell back in Europe. Colonists encountered a serious learning curve applying their husbandry practices in an unfamiliar land. Maize grew better than wheat, barley, or rye in New England's caustic soils, but required education from local Natives to cultivate properly. The climate had more intense warm and cold extremes than Britain as well. Long winters not only shortened the growing season but also demanded greater food reserves to endure. Warmer summers scorched plants. Unprepared

[108] James Phinney Baxter, ed., *Sir Ferdinando Gorges and His Province of Maine* (Boston: Prince Society, 1890), 3:161; Grandjean, *American Passage*, 61–71. An example of English traveling overland is given from Weymouth's 1605 expedition. "we marched up about fure miles in the maine, and passed over three hilles: and because the weather was parching hot, and our men in their armour not able to travel farre and reutrne that night to our ship, we resolved not to passe any further, being all very weary of so tedious and laboursome a travel." Rosier, "True Relation," 293.

for these environmental factors, "the country seemed hardly habitable" to the English, who were haunted by hunger during the early stages of their ventures.[109]

Intermittently on the brink of disaster in a foreign land, the devout Calvinist colonists of Plymouth, Massachusetts Bay, and Connecticut found the abundance of fish in New England's rivers a welcome relief. Such abundance was unexpected since Europe's rivers had been practically devoid of fish the prior four centuries, leading seventeenth-century chronicler William Hubbard to boast "Few countries [as New England] have such an advantage." Colonists converted this "advantage" of fish calories into food, fertilizer, and money. Besides being plentiful, river fish were perhaps more importantly easy to catch. The early religious refugees to Plymouth and Massachusetts lacked a background in fishing or fishing boats and consequently struggled to locate the immense schools of cod, halibut, and haddock lurking beneath the ocean's vast surface.[110] However, even the least skilled angler could catch "more than cart loades" with a well-placed weir or seine across a river during the spring and summer. When drought parched Pilgrims' corn during the early summer months of 1623, the "principle support of their lives" became sea bass which they caught with nets once they "pressed into most of the great creeks every tide."[111]

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[109] Brian Donahue, *The Great Meadow: Farmers and the Land in Colonial Concord* (New Haven, Conn.: Yale University Press, 2007), 83–98; Karen Ordahl Kupperman, "The Puzzle of the American Climate in the Early Colonial Period," *American Historical Review* 87, no. 5 (1982): 1262–89; Jeremiah Dummer, *A Defence of the New England Charters* (London: J. Peele, 1721), 13; Nearly all early English colonies experienced hunger. Dennis B. Blanton, "The Weather is Fine, Wish You Were Here, Because I'm the Last One Alive: 'Learning' the Environment in the English New World Colonies" in *Colonization of Unfamiliar Landscapes: The Archaeology of Adaption*, eds. Marcy Rockman and James Steele (New York: Routledge, 2003), 190–200; *The Journal of Richard Norwood, Surveyor of Bermuda* (New York: Bermuda Historical Monuments Trust, 1945), 53–64; Karen Ordahl Kupperman, *Providence Island, 1630–1641: The Other Puritan Colony* (Cambridge: Cambridge University Press, 1993), 276, 284; Katherine A. Grandjean, "New World Tempests: Environment, Scarcity, and the Coming of the Pequot War," *William and Mary Quarterly* 68, no 1 (2011): 75–100.

[110] Francis X. Moloney, *The Fur Trade in New England 1620–1676* (Hamden, Conn.: Archon, 1967), 18.

[111] Hubbard, *General History*, 30–31; Cumbler, *Reasonable Use*, 15.

The swarms of fish were frequently too much for people to eat and better used fertilizing fields. Replenishing New England's rarefied acidic soil for cultivation was an unending struggle. The agricultural Indians of New England burnt underbrush or simply moved once fields quit yielding. Europeans farmed land more permanently through a sophisticated method of crop rotation and manure distribution. Maize's tendency to deplete the ground of nutrients at a faster rate than other grains and the scarcity of cattle in the early years of colonization presented a serious challenge to English husbandry methods. Although scholars debate whether Indians or Europeans inaugurated the practice, colonists recharged their soil by inserting the carcasses of alewives and herrings caught in nearby streams into their corn mounds. This additional fertilizer source was especially important to Europeans because their unwillingness to move like Native Americans meant that their supply of fertilizer, usually produced by cattle, determined how much corn they could grow. Unconsumed fish could be converted into another nourishment source by extending planting grounds or bolstering crop yields.[112]

River fish were finally utilized as a profitable commodity. Although Europe's stocks had been nearly exterminated hundreds of years before, the demand for fish remained as strong as ever. French cooks had even concocted a veal recipe which imitated the taste of sturgeon to satisfy pallets grown accustomed to a flavor which no longer existed in its natural state. New England colonists quickly recognized they could make a tidy profit shipping these much desired fish to Europe. John Josselyn observed for three pence one could "buy of an Indian half a dozen silver bellied Eals as big as those we give 8 pence or 12 pence a piece for at London" The best fishery for sturgeon was on the Merrimack River "where much is taken, pickled and brought for

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[112] Nicolas van Wassenaer, "Historisch Verhael" in *Narratives of New Netherland, 1609–1664*, ed. J. Franklin Jameson (New York: Charles Scribner's Sons, 1909), 81; Donahue, *Great Meadow*, 90; Cronon, *Changes in the Land*, 151–52; Wood, *New-England's Prospect*, 13.

England, some of these be 12. 14. 18. foote long." William Wood refused to provide the specifics on the price "because it is so cheape, so that one may have as much for two pence, as would give him an angell [around ten shillings] in England." In a rerun of the events in medieval Europe, landings declined as people zealously netted, speared, and hooked fish made vulnerable in the narrow confines of riverine spaces. Large species like Sturgeon were the first to disappear from New England's rivers. As early as 1673 Massachusetts restricted sturgeon fishing on the Merrimack River to a few licensed individuals. By the mid-eighteenth century sightings of mature sturgeon on that mighty river were a rare sight.[113]

Examining the use of fish weirs by both European and Indian peoples in colonial New England's rivers highlights the ways these two groups interacted with the environment more broadly. Fish weirs or seines are an ancient technology shared by peoples across the world. By draping a net or placing stones or stakes across a waterway, people found a fairly simple, yet effective way to herd creatures invisible under the water's surface into a convenient extraction space. A Dutch visitor to Plymouth described Indian nets as "knit very neatly, of the wild hemp."[114] Nearby, he saw the Pilgrims had "shut in with planks" a river with trellis-laced sluices which blocked fish. Another saw colonists take ten thousand shad "in two houres by two men, without any weire at all, saving a few stones to stop their passage up the river." Both Indians and Europeans dipped baskets into the water at the lower reaches of these corrals made of nets, stones, or sticks and emerged with heaping scoopfuls of squirming fish. At Plymouth, both Indians and Europeans treated rivers as a commons. The assembly of weirs and seines was a

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[113] Hoffman, "Economic Development and Aquatic Ecosystems in Medieval Europe," 649; Bolster, *Mortal Sea*, 76–78; Josselyn, *Two Voyages*, 87; Wood, *New-England's Prospect*, 37; Hugh Chisolm, ed., *Encyclopaedia Brittanica* (New York: Encyclopaedia Britannica Company, 1910) 2:6; Mass Bay Records 4 (part 2):553.

[114] Elena B. Décima and Dena F. Dinacuze "The Boston Back Bay Fish Weirs" in *Hidden Dimensions: The Cultural Significance of Wetland Archaeology*, ed. Kathryn Bernick (Vancouver: University of British Coumbia Press, 1998), 157–74; for prehistoric fish weirs in Virginia, see Helen C. Roundtree, *The Powhatan Indians of Virginia: Their Traditional Culture* (Norman: University of Oklahoma Press, 1989), 34–38;

community endeavor among Native Americans, where "women and old men spin the thread." For colonists, the fish caught in their weir were distributed "each according to the land he cultivates."

However, weir technology performed different ethical actions in the minds of Europeans and Indians. A European observer saw Indians affix talismans to their fishnets that jiggled once ensnaring a writhing salmon or shad, upon which they would "cry out and call upon the mannetoe…to give them many fish." Both the fish and the technology which captured them were given to humans by the grace of gods. This action of catching fish was also deeply personal considering many Algonquian peoples considered water creatures distant relatives.[115] Although it was certainly not unusual to see European fishermen beseech higher powers for aid in their pursuit of fish, their relationship with the fish itself was not nearly as intimate. This can be seen in how seventeenth-century Britons referred to the fish weirs in their streams as "engines." Unlike contemporary conceptions of an engine as a machine which converts "power into motion," engine commonly meant "an instrument to do any thing with." This broader definition referred to contraptions which accomplished tasks in an abler fashion: trebuchets that launched boulders into the sky, mills which harnessed wind, water, or animal power toward human tasks, and even door hinges. Europeans associated engines or "ingines" with "improvement," which meant not only making something better, but enlargement, or the ability to do or cultivate more. Engines "improved" life by accomplishing labor in a more efficient manner than done with ones' own hands. Fish engines "improved" rivers by converting waterpower into fish. These things

[115] David Peterson De Vries, *Voyages from Holland to America, A.D. 1632 to 1644*, trans. Henry C. Murphy (New York, 1853), 162; Charles G. Leland, *The Algonquin Legends of New England* (Boston: Houghton, Mifflin, 1884), 30.

were the product of human ingenuity (where the word engine comes from) and made human lives better.[116]

In 1634 Massachusetts Bay granted Israel Stoughton the liberty to put a weir on the Neponset River, providing he "sell the Alewyves hee takes there att 5s[hillings]." That the price of the fish was regulated shows that the colonial state esteemed a river's resources a common. However, that the weir essentially transformed a living animal into a commodity defined only by its exchange value among other humans evinces a major difference in the Native and European conception of nature. Reducing the value of a fish to a price uprooted earlier human conceptions which understood "Alewyves" as part of an interconnected system, and incentivized people to use the fish for only their interests. Such an anthropocentric ethos behind fish weirs in the European mind fostered unsustainable practices that had not only decimated Europe's rivers of flora and fauna, but their lands as well. This market-oriented attitude toward environmental resources manifest in Israel Stoughton's weir is what colonists brought to the Americas.[117]

That being said, English colonists attached social value to river fish in ways probably not too dissimilar to Native peoples. In 1664 the community in Dover, New Hampshire appointed leading men Edward Starbuck, Richard Waldron, and William Furbert "waeres men" for life. Dover centered on the Cochecho Falls, a lucrative waterpower and fishing site. To monitor this resource, weirs-men were the only ones allowed to take fish there. These weirs-men distributed fish in a stratified way: first the church received six thousand alewives at the "common price" of

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[116] Brian Fagan, *Fish on Fridays*, 49; "engine, n." and "improvement, n." OED Online (Oxford: Oxford University Press, 2017); "ingine," Robert Cawdrey, *A Table Alphabeticall* (London: Edmund Weaver, 1604); Robert Friedel, *A Culture of Improvement: Technology and the Western Millennium* (Cambridge, Mass.: MIT Press, 2010); Andrew McRae, "Husbandry Manuals and the Language of Agrarian Improvement," in *Culture and Cultivation in Early Modern England*, eds. Michael Leslie and Timothy Raylor (Leicester: Leicester University Press, 1992), 32–62.
[117] John Noble, ed., *Records of the Court of Assistants of the Colony of the Massachusetts Bay, 1630–1692* (Boston: County of Suffolk, 1904), 43.

3 shillings per thousand, then church and town officers, and finally the "moste antient inhabitants." Weirs-men gave the first salmon caught every year to the pastor. These weirs-men were paid six thousand alewives each per year for their trouble.[118] Although English colonists commodified fish and anyone could theoretically purchase as many as they wished, they had to wait in line in ways that reinforced social hierarchies in a community.

Trade Power

The survivors of the first desperate years of colonization on New England's coast soon began venturing up rivers for something besides fish. Furs drew Indians and Europeans to waterways in search of profits. Since rivers were the fastest way to cover space, they provided colonists the easiest route into the interior for the nautically-oriented English and allowed Indians to cover a wider range to trap fur-bearing animals. Colonists also sought the rich farmland found only in river valleys. Fertile land in addition to the seasonal supply of fish made riverine locales places where waterpower almost literally carried food and trade to ones' doorstep. A 1660 description of Nashua, New Hampshire on the Merrimack River recounted these advantages saying

Figure 10 John Foster, "Map of New England," 1677. The disproportionately large size of rivers denotes their importance and how colonists oriented space.

[118] Otis G. Hammond, ed., *New Hampshire Court Records, 1640–1692* (State of New Hampshire, 1943) [henceforth NH State Papers], 40:454–55.

the town "first begun for Love of the Indians Trade, but since the fertility of ye Soyle and pleasantness of the River hath invited many more. There is Excellent Salmon and Trout." Downstream in Sudbury, the riverine location provided both fish caught with "hooks & Lynes and Nett" and "something by Tradeing wt the Indians" traveling along the waterway. These were not trifling matters. South of Boston in Dorchester, William Wood reported that "here is no Alewife-river, which is a great inconvenience." For these reasons, New England colonial settlements climbed up rivers from the coast. That these new settlements usually stood on the foundations of abandoned Indian villages shows the English were not the first humans to recognize a river's labor saving benefits. In seventeenth-century New England, the first inland communities almost always popped up athwart colliding vectors of beaver fur and fish moving along waterways. [119]

The vessel of choice along these inland waterways became the dugout canoe. Whereas Andrew Lipman and Matthew Bahar have shown that New England Indian groups quickly adopted European sailing technology on the ocean, the opposite phenomenon was occurring on rivers. New England's turgid, precipitous riverscape demanded small, easily portable craft.[120] John Josselyn recommended that potential colonists to New England purchase "A Boat called a Canow" which he estimated would cost three pounds "in the Countrey (with a pair of paddles) if it be a good one." Additionally, the scarcity of milled planks, especially in the early years of colonization or in hinterland regions, made dugout canoes hewn from tree trunks the easiest

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[119] Samuel Maverick, "A Briefe Description of New England," *New-England Historical and Genealogical Register* 39 (1660, repr., January 1885), 39; D. W. Meinig, *The Shaping of America: A Geographical Perspective on 500 Years of History* (New Haven, Conn.: Yale University Press, 1986), 1:65, 109; Deerfield, Massachusetts is well developed case study of an English town being established beside a river on the site of a former Native American settlement. Richard I. Melvoin, *New England Outpost: War and Society in Colonial Deerfield* (New York: W. W. Norton, 1989), 26–29, 48.

[120] Lipman, *Saltwater Frontier*, 76–84; Matthew R. Bahar, "'The Sea of Trouble We are Swimming in': People of the Dawnland and the Enduring Pursuit of a Native Atlantic World" (PhD diss., University of Oklahoma, 2012), 66–111.

vessels to construct. Englishmen initially purchased canoes from Indians, although they quickly began making their own creating hybridized versions with rudders and masts. Girthy trees beside the riverside were especially coveted for canoe construction. Within only four years of planting their community, the quantity of such trees in Springfield, Massachusetts had been so depleted that it was ordered in 1640 that "no man shall fall any Cannoe tree…wth out ye general consent of ye Plantation." The presence of canoes litter seventeenth-century records. In Salem, William Wood observed "every household having a water house [horse] or two." These canoes freighted everything from crops, manure, barrels, and furs up rivers and around waterfalls to and from ports like Hartford which were within reach of ocean-going ships. Sometimes the ride could be bumpy. In 1663 John Pynchon received by canoe in Springfield "7 broken Rundlets of shot" and 28 "much brused" kettles for the Indian trade.[121]

Travelling in a canoe along a river was pretty much the only option to reach the interior in the Connecticut Valley and Maine during the colonial era. One way to get a sense for the watery preference for inland travel in certain parts of New England was to walk the region's roads. More than a century after the first colonial settlement, Dr. Alexander Hamilton "had much difficulty to find the roads" in Connecticut because "they wind and turn so much, and are divided into such small paths," which were "exceeding rough and stony." All the while, Hamilton admired from his horse the colony's many "navigable" rivers and the towns which lay along them. When he crossed into New York, Hamilton mumbled to himself "Farewell

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[121] Josselyn, *Account of Two Voyages*, 16; Henry Martyn Burt, ed., *The First Century of the History of Springfield* (Springfield, Mass., 1898), 1:167; Orcutt, "Mishoonash," 48–82; Wood, *New England's Prospect*, 48; Ann Marie Plane, "New England's Logboats: Four Centuries of Watercraft," *Bulletin of the Massachusetts Archaeological Society* 52, no. 1 (1991): 12; In the marginalia of his journal, John Winthrop in 1630 described how to build a 24' by 6' boat, out of 4 hallowed pieces of "oke or elme," the bow of which was fashioned "to the forme of the he[ad] of an Indian Canoe." *Winthrop Papers* (Boston: Massachusetts Historical Society, 1931), 2:238; *The Pynchon* Papers, eds. Carl Bridenbaugh and Juliette Tomlinson (Boston: Colonial Society of Massachusetts, 1985), 114.

Connecticut…I have had a surfeit of your ragged money, rough roads, and enthusiastick people." Hamilton saw that Connecticut had an effective highway system for trade and communication, but as the Marylander experienced firsthand getting lost or jostling erratically in his saddle, that system was best piloted with a boat, not a horse.[122]

Roads were perhaps even worse on New England's Eastern Frontier. In 1669 Falmouth and Scarborough, Maine were called before the General Court for impassable roads.[123] One hundred years later things had not improved, at least in the opinion of John Adams. As a young lawyer travelling the court circuit in Massachusetts' Province of Maine, Adams had a "vastly disagreeable" experience in 1770 on the roads between Ipswich, Massachusetts and Falmouth, Maine, describing them as full of "many sharp, steep Hills, many Rocks, many deep Rutts, and not a Footstep of Man, except in the road." Earlier in 1765 the future president had ventured even farther north to Pownalborough on the Kennebec River to hear a case. Many years later, Adams remembered

> It was the only time in my Life, when I really suffered for want of Provisions…In general it was a Wilderness, incumbered with the greatest Number of Trees of the tallest height, I have ever seen…The Roads, where a Wheel had never rolled from the Creation, were miry and founderous, incumbered with long Sloughs of Water.[124]

It is more than likely that both John Adams and Alexander Hamilton would have enjoyed their journeys more if they had been gliding along the Connecticut or Kennebec Rivers in a

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[122] Alexander Hamilton, *Hamilton's Itinerarium*, ed. Albert Bushnell Hart (St. Louis, 1907), 201–09; Isabel S. Mitchell, *Roads and Road-Making in Colonial Connecticut* (New Haven: Yale University Press, 1933).
[123] Robert E. Moody, ed. *Province and Court Records of Maine* (Portland: Maine Historical Society, 1931), 2:184; The road apparently closely followed the coastline which a 1673 court order described as "daly obstructed by observance of the Tyds." *Province and Court Records of Maine*, 2:254–55.
[124] John Adams Diary, July 12, 1770 and July 2, 1771, Adams Family Papers, Massachusetts Historical Society; John Adams, *Diary and Autobiography of John Adams*, ed. L. H. Butterfield (Cambridge, Mass.: Harvard University Press, 1961), 1:281.

canoe to their destinations. They probably would have encountered more fellow travelers as well. John Adams only felt like he was in a "Wilderness" because he took a route few locals did.

Amid all the canoe traffic darting and scudding along New England's rivers, a noticeable distinction persisted between Indians and colonists. Birch bark canoes so admired by European explorers remained a Native American technology. One of the perks of the dugout canoe, from colonists' perspective, was that it was fairly simple to construct. The birch bark canoe was not that. Despite birch canoes' universally acknowledged advantage in both portability and speed traversing inland American space, Europeans, whether from unwillingness or inability, did not construct it. An exchange between Massachusetts Governor Francis Bernard and Secretary of the Navy Viscount Barrington in 1763 provides some insight as to why. While in Penobscot Country, Bernard had the commander of the British fort "employ the best hand he could to make an Indian Canoo" as a gift for Barrington's "Serpentine River at Becket" in England. The captain chose a "Squaw of the Penobscot Tribe" to paste together a birch bark canoe. The Viscount was confused more than impressed. He wrote Bernard from England, "I have been considering that the admirable Canoe you were so good as to give me will be useless here." The reason being that "Nobody can navigate it or will venture to go into it. If it receive damage nobody can mend it"[125] Viscount Barrington's reaction to the birch canoe suggests that durability might be the reason colonists preferred dugouts across New England, giving northerly Indians a transportation advantage.

The Fur Trade

[125] Edward Channing and Archibald Cary Coolidge, eds., *The Barrington-Bernard Correspondence, and Illustrative Matter 1760–1770* (Cambridge, Mass.: Harvard University Press, 1912), 70, 209; Thanks to Alexandra Montgomery for bringing these to my attention.

The fur trade increased traffic on New England's waterways, making those spaces of greater social and economic importance at the turn of the seventeenth-century. Rivers had always been central arteries in precontact New England, but the introduction of a massive new European demand for furs and Indian interest in the newcomers' cloth, firearms, and other metallic wares increased the volume of trade tremendously, filling waterways with the sloshing sounds of paddles. Controlling these river spaces became the focus for Indians and Europeans seeking to corner this trade.

A motley of Basque, Portuguese, and French fishermen initiated the fur trade in the sixteenth century. The items they exchanged for beaver pelts lent great social prestige to their owners within Native communities and provided a serious military advantage since iron hatchets and spear points were considerably more lethal than the stone edges Indians used. These European trade goods reshuffled the political hierarchy in northeastern North America to favor the Indian groups with greater access to these items. Iroquois, Hurons, Micmacs, and others ascended the pecking order by positioning themselves as middlemen between Europeans and other Indians in this fur trade.[126] This reshuffling is perhaps better understood as a spilled deck of violence and social upheaval. Warfare among Native groups increased in the sixteenth century as they adapted to the new political dynamic inadvertently wrought by European contact.[127]

From a Native perspective, controlling the lucrative European trade meant dominating the spaces where passing Europeans made contact: i.e. waters deep enough to accommodate Europeans' ocean-going ships. The generously-fathomed St. Lawrence and Hudson Rivers proved best suited for this trade because they pierced far into the continent, putting Europeans in

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[126] Bruce J. Bourque, "Evidence for Prehistoric Exchange on the Maritime Peninsula" in *Prehistoric Exchange Systems in North America*, eds. Timothy G. Baugh, Jonathon E. Ericson (Boston: Springer, 1994).
[127] Bruce C. Trigger, *Natives and Newcomers: Canada's "Heroic Age" Reconsidered* (Montreal & Kingston: McGill-Queen's University Press, 1985); Bahar, "Sea of Troubles," 75n5.

contact with vast Native trade networks on the Great Lakes. In contrast, almost all New England's innumerable rivers were a combination of too short, too steep, and too barred at their mouths with sand. Although Indians could navigate this terrain effectively, the cumbersome European ships carrying prized metal tools could not. Even worse, the region's glacial inheritance carved furrows along a north-south axis, pointing rivers back toward the St. Lawrence network which reinforced the economic and political power of rival Indian groups.

The sudden appearance of fortifications in New England at the turn of the seventeenth-century speaks to the upheaval in the region where written records cannot. Native forts shared a similar wooden post design arranged around a village or a house which they placed atop hills. The lack of archaeological evidence for forts before the contact period points to an explosion of violence in the northeast triggered by the fur trade. These fortifications served as a refuge in time of attack. In the early seventeenth century, Indians in the Gulf of Maine suffered from Micmac raids by land and sea emanating from the north. Micmacs raided the coasts in sailing vessels to deter Indians there from trading with passing Europeans. Iroquoian people similarly terrorized New England Indians from the west. Both sought to secure an exclusive position as middlemen in the fur trade by keeping other Indians away from coastal or riverine areas where they could trade with Europeans.[128]

Although the exchanging of furs with Europeans was initially limited to the ocean, this misses the interior, intra-Indian dimension of the trade. People needed to transport furs from inland mammal habitats to the sea. Hauling trade items was most easily accomplished by floating

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[128] Chilton, "Social Complexity," 150; Bruce J. Bourque and Ruth Holmes Whitehead, "Tarrentines and the Introduction of European Trade Goods in to the Gulf of Maine," *Ethnohistory* 32, no. 4 (1985), 327–41; Gordon M. Day, "The Ouragie War: A Case History in Iroquois-New England Indian Relations," in Michael K. Foster, Jack Campisi, Marianne Mithun, eds., *Extending the Rafters: Interdisciplinary Approaches to Iroquoian Studies* (Albany: State University of New York Press, 1984), 37–39.

along the region's waterways which entailed portaging between lakes and around waterfalls. Such a voyage during the violent, uncertain era of the late sixteenth and seventeenth century must have made for an anxious ride. On the way to the ocean, one can imagine travelers approaching a known navigational hazard and landing their canoe at a portage on the Connecticut, Merrimack, or Penobscot Rivers. Besides the river churning around them, travelers also navigated a complex web of social relations. A village almost certainly would have sat at the portage, perhaps now overlooked by an imposing palisade fortress. The fort would have protected the villagers' lives as well as their location on a prosperous riverside fishing, planting, and trading spot. For strangers awkwardly carrying their canoe around the rapids or falls, the menacing appearance of a recently completed fort would have signified the contested status of that space, and that passage would only be open to friends. Native groups which controlled strategic riverine locations like these could to a degree control who got to trade on the coast, or were themselves ideally positioned to be intermediaries. Native peoples fought to control coastal areas in an attempt to monopolize access to the fur trade. Since the furs themselves were sourced in the interior, similar attempts to police the passageways to the coast must also have been a priority.

Figure 11 An Indian fortress (B) stands next to falls of the Saco River (A). *Les Voyages Du Sieur de Champlain* (Paris: Jean Berjon, 1613), 70.

The immense social and political value of the trade on New England's rivers made controlling that space more important than ever.[129]

Waterways would also become important places to control for Europeans engaged in the fur trade, but not initially. Before permanent colonies took root on the mainland, any roving ship could pull up to the coast, and wait, bobbing beside the shore, for Indians looking for garments or metal tools. Native Americans were not always eager or willing to trade, as the Popham colonists discovered or when Wabanakis answered Giovanni Verrazano's 1524 call for trade by waving "their buttocks and laughing" at the bearded strangers offshore.[130] However, in most cases New England Indians were more than willing to haggle for hatchets, kettles, and knives directly from unfamiliar white faces than familiar Indian rivals. French fur traders only began penetrating the Gulf of Maine at the tail end of the sixteenth century, and until the 1620s they were largely uncontested.[131] But as the number of beavers and Indians began to decline shortly thereafter, Europeans needed to move inland to access these furs. The intersection of Native land and water routes beside river portages became the ideal spots to set up shop. When the price of furs skyrocketed in 1627, competition for these mercantile confluences became so intense that positioning oneself to intercept fur-bearing Indians meant the difference between bonanza and

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[129] Historians have shown that safely traveling across Native American space involved navigating complex and interconnected social networks. In the Mississippi Valley, see Jacob Lee, "Rivers of Power: Indians and Colonists in the North American Midcontinent" (PhD diss., University of California-Davis, 2014); For Iroquoia, see Jon Parmenter, *The Edge of the Woods: Iroquoia, 1534-1701* (East Lansing: Michigan State University Press, 2010); And in New England, see Brooks, *Common Pot*. Nathaniel Bouton, *The History of Concord* (Concord, N. H.: Benning W. Sanborn, 1856), 8–9; Neal Salisbury, "Toward the Covenant Chain: Iroquois and Southern New England Algonquians, 1637–1684," in Daniel K. Richter and James H. Merrell, eds., *Beyond the Covenant Chain: The Iroquois and Their Neighbors in Indian North America, 1600–1684* (Syracuse, N. Y.: Syracuse University Press, 1987), 63–65.

[130] Lawrence C. Wroth, ed., *The Voyages of Giovanni da Verrazzano, 1524–1528*, trans. Susan Tarrow (New Haven, Conn.: Yale University Press, 1970), 139–41.

[131] "ytt Seemeth that the french hath trad with them for use many French words." "Davies Journal," (1607) 421; French-men doe Trade with them; which is very likely, for likely, for one of them spake some words of French." Robert Juet, "Master Hudsons third Voyage to Nova Zembla" in *Haklyutus Posthumus or Purchas His Pilgrimes* (Glasgow: University of Glasgow, 1906), 13:346.

ruin. Competition got so intense that traders were soon "cutting one another's throats for beaver" beside rivers just for the chance to trade.[132]

When the English came to Plymouth in 1620, they, like the Popham colonists before them, searched in vain for a commodity to pay off the investors who funded their enterprise. In 1621, the Pilgrims sent back to England clapboards hewn with their own hands and beaver furs traded with neighboring Indians. A few years later corn also proved to be a profitable commodity. But it was not enough.[133] By 1627 the Plymouth Colony amassed a debt of £1800. Because Plymouth's ill-conceived location made it difficult to find valuable commodities nearby, the eight men entrusted with paying off this debt (known as "the Undertakers") needed to look afar. They decided on venturing to the mighty rivers of the north. In his voyage to New England thirteen years earlier, John Smith had noted "the furs Northward are much better, and in much more plentie, then Southward." Northern New England's gnarled, post-glacial terrain created many lakes and streams, ideal habitat for beavers. The harsher climate also produced animals with thicker hides.[134] Fortuitously, it so happened that some of the most eager customers for the Pilgrims' corn were Indians in these colder northern parts. Wabanakis in Maine were always at most semi-dependent on agriculture, and recent wars laid many of their farms to waste.[135] Pilgrims recognized this opportunity in late 1625 when Edward Winslow and others sailed "eastward." The men traveled in a shallop 150 miles "for a bigger vessel they had none" to these fur-bearing regions. The desperation to settle their debts can be seen in that the shallop's partial

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[132] John Winthrop, *Winthrop's Journal, "History of New England," 1630–1649*, ed. James Kendall Hosmer (New York: Charles Scribner's Sons, 1908), 1:123–24.
[133] William Bradford, *Bradford's History of Plymouth Plantation*, ed. William T. Davis (New York: Charles Scribner's Sons, 1908), 123, 211.
[134] Strother E. Roberts, "The Commodities of the Country: An Environmental Biography of the Colonial Connecticut Valley" (PhD diss., Northwestern University, 2011), 253–98.
[135] Smith, *Description of New England*, 30, 39; Samuel de Champlain, "Maine and Massachusetts," (1605) *Sailors Narratives of Voyages along the New England Coast, 1524–1624* (Boston: Hougton, Mifflin, 1905), 72; Bourque, *Twelve Thousand Years*, 119.

deck was reserved for the corn needed for trade, leaving the men exposed to the elements night and day, which was no small matter considering the ocean "at that time of the year begins to growe tempestious." The Pilgrims' English backers failed to supply them with suitable trade items. Corn, "which them selves had raised out of this earth" was the best they could do. Winslow and his crew ventured "up a river called Kenibeck" as Raleigh Gilbert had done in 1607. Fortunately, "God preserved them, and gave them good success, for they brought home 700li of beaver."[136]

Hitherto, French fur traders went virtually unchallenged in the Gulf of Maine, even establishing a trading post at the mouth of the Penobscot River in 1613.[137] The rising price of furs in Europe impelled the English into these waters and would initiate competition for control of the trade among imperial powers. In 1622 George Mason and Ferdinando Gorges obtained a patent from Salem to the Kennebec and began a fur trading operation on the Piscataqua River the next year. Since Plymouth had "no Convenient Place either of Trade or of fishing within their Owne precincts" they sought and obtained a patent finalized in 1629 from the Plymouth Council of New England granting them that "Convenient Place," which was ownership of the lands bordering the Kennebec River. This patent excluded all others from trading on that waterway.[138] Policing the fur trade on the ocean was extremely difficult and legally dubious. The Mason, Gorges, and Plymouth colonists partially solved this scenario by laying claim to the land beside rivers, which at least theoretically shunted the flow of fur profits away from rivals on the ocean and into their pockets. Waterways could be owned in a practical way that the open ocean could

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[136] Bradford, *Plymouth Plantation*, 208.
[137] George MacBeath, "Saint-Étienne de la Tour, Claude de," in *Dictionary of Canadian Biography*, vol. 1 (University of Toronto/Université Laval, 2003–).
[138] *Documents and Records Relating to the Province of New Hampshire* (Concord, 1867), 1:33–38; Charter of the Plymouth Colony to Lands on the Kennebec River (1629), CMeHS 3rd ser., 1:108–17; 33–36.

not. The cannons mounted on the small trading posts perched beside these waterways announced that to European competitors.[139]

It is easy to read European grants and see that they are mainly about land, especially since these very documents would legitimize the dispossession of New England's Native peoples in the eighteenth century. However, in the 1620s it was water and trade, not land and settlement that was on the minds of the French or English. Since water could not be owned in English jurisprudence, groups like the Plymouth colonists sought to own the land around the water.[140] The small trading posts at the foot of the Penobscot, Kennebec, and Piscataqua Rivers (and very soon many other places) sought to monopolize the fur trade which drained to those locations. These trading entities did not try to enforce these claims on the Indians living on their abstract title because they relied on their goodwill to provide a steady stream of skins to their post. Europeans would purchase land from Indians—although it is fairly clear that the sellers had a different understanding of what was being exchanged—not to dispossess them, but as a way to hold legal dominion over river spaces and exclude other European traders from buying that land from a same or different Indian and establishing a legal right in European jurisprudence to trade.[141] The incongruities between Native American and European notions of ownership, the dubious authority of English land granting companies, and the disputed land claims between European Empires, rendered whatever legal title to New England space highly subjective, and theoretical at best. It is worth remembering that the huge seventeenth-century land grants that

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[139] Water ; Lipman, *Saltwater Frontier*, 117–24.
[140] "[T]he waters that yeeld fish for the foode and sustenance of man are not by that name demandable in a Precipe [request for an action], but the land whereupon the water floweth or standeth is demandable." Edward Coke, *The Institutes of the Lawes of England* (London, 1628), 1:4.
[141] Emerson W. Baker, "'A Scratch with a Bear's Paw': Anglo-Indian Land Deeds in Early Maine," *Ethnohistory* 36, no. 3 (1989): 235–56.

speculators would squabble over in the next century were originally created so Europeans could own waterways.

Unfortunately for New Englanders, the best waterways for obtaining furs coursed through their disputed eastern and western borders with the French and the Dutch. In 1629, the Plymouth Colony took possession of a French trading post called Pentagoet on the Penobscot, which was the next major waterway east of the Kennebec. Originally built in 1613, Pentagoet's precarious no-man's-land position was already demonstrated when it was torched in 1626 by English raiders. The 1632 Treaty of St. Germain restored Acadia to the French, whose western border they defined as the Kennebec River. Three years later, under the orders of the Acadian governor, Charles D'Aulnay expelled the few Englishmen occupying the Penobscot post. The unsettled nature of the Acadian-New England boundary can be seen in that Plymouth colonists felt within their rights to immediately send a force, despite the recent treaty, to retake their lucrative trading position on the Penobscot. This effort failed when the English commander expended his ship's ammunition "like a madd man" well beyond the range of the French, who stood unmoved. The French retained their favorable vantage at the Penobscot's entrance for the next four decades.[142]

The Plymouth colonists had better success on the Connecticut River. Known to the Dutch as the "Fresh River," the Connecticut is the longest river in New England, with a watershed whose tendrils reach into the heart of western Massachusetts, Vermont, and New Hampshire. It was by far the best access point from the ocean to the inland beaver habitats within New England's bounds. However, the Dutch got there first, maintaining a strong trading presence

[142] William I. Roberts, "Fur Trade of New England in the Seventeenth Century" (PhD diss., University of Pennsylvania, 1958), 96–98; Bradford, *Plymouth Plantation*, 318–20; Alaric Faulkner and Gretchen Faulkner, "Acadian Maine in Archaeological Perspective," *Northeast Historical Archaeology* 14 (1985): 1–20.

since the early 1620s. Yet the Dutch also tried to maintain an amicable relationship with their English neighbors, and seeing the Plymouth colonists seated "in a barren quarter" for acquiring commodities, pointed them to the Connecticut as a "fine place for plantation and trade" and even wished the English "make use of it." In 1631, the Sagamore Wahginnicut also beckoned the New Englanders to establish trade there, largely in attempt to enlist them as an ally against his Pequot rivals. When the English finally acted on these invitations in 1633, the Dutch reversed policy and erected a "slight fort" at present-day Hartford called Good Hope to block competitors from the flow of pelts upstream. As the English sailed upriver to intercept Fort Good Hope's privileged position to collect furs, the Dutch were waiting and demanded the English halt. Staring down the barrels of Dutch cannons and muskets, the English called their bluff, yelling across the river that they had a commission from Plymouth and would "obey their order and proceede" regardless. The Dutch "threatened them hard" but did not fire. When news reached Manhattan of this aggression, the Dutch West India Company "sent 70 men, in warlike maner, with collours displayed, to assualte them." When they saw the English had already fortified their small trading post with a palisade, they chose to castigate the English again rather than spill blood. The English replied to these accusations of intrusion by feigning innocence, saying they had simply bought the land from the Indians, and did not infringe upon territory the Dutch had purchased from them.[143]

In the following decade, swarms of Puritan colonists settled along the once Fresh now Connecticut River, leaving the Dutch at Fort Good Hope increasingly isolated. By 1641 the English felt confident enough about their superiority in the region that they began to harass the

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[143] Bradford, *Plymouth Plantation*, 209–302; Winthrop, Journal, 61, 109–10; A. H. Buffinton, "New England and the Western Fur Trade, 1629–1675," *Publications of the Colonial Society of Massachusetts* (Boston, 1917), 18:160–92.

Netherlanders around the fort. Good Hope residents complained that their English neighbors "come with mattocks and barbarously treat our people," chasing off their cattle, digging up "our fine looking peas," and smashing their plows which they hurled into the river. With beaver commanding a significant value and with less space along the river, the days of amicable neighborliness had passed.[144]

The legal devices which colonists used to monopolize the river trade quickly proved ineffective and untenable. Plymouth's bohemian neighbor Thomas Morton embodied these logistical challenges. In 1624 Morton began trading with Indians from his Merrymount colony north of Plymouth on Massachusetts Bay in present-day Quincy. Besides being a competitor in the fur trade, Morton's libertine behavior of carousing with Indians quickly caught the disapproval of stern Plymouth colonists for its "riotous prodigallitie and profuse excess." They also loudly complained that Morton furnished Indians with guns and even taught them how to shoot. Beaver-toting Indians preferred to trade for arms instead of the Pilgrims' corn or wampum. Furthermore, Morton flouted the Pilgrims' trade privileges. After Edward Winslow's successful 1625 fur voyage, Thomas Morton intercepted those furs "in Kynyback river finely, ere they were awares" the following year. When the "Plimoth Planters" arrived at the Kennebec in Morton's wake they "were dismaide to finde" that Morton "had gleaned away all before they came." Morton later attributed his exile from New England to this hindering "the benefit of their Beaver Trade," writing "This action bred a kinde of hart burning in the Plimoth Planters, who after sought occasion…to destroy his plantation." Plymouth arrested and deported Morton in 1628 for violating a 1622 proclamation prohibiting the sale of weapons to Indians. Morton, a

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[144] Arnold J. F. Van Laer, trans., *New York Historical Manuscripts Dutch* , eds. Kenneth Scott and Kenn Stryker-Rodda (Baltimore: Genealogical Publishing, 1974), 4:111.

trained lawyer, pointed out to the Pilgrims that proclamations were not law, and consequently avoided prosecution once he returned to England.[145]

Although the Plymouth colonists successfully expelled Morton, secured a charter from the Plymouth Council for New England, and erected a trading post, competition would continue to undermine their fur trade monopoly on the Kennebec. John Hocking, a resident of the Piscataqua settlement in New Hampshire, tested the resolve of the Plymouth traders when he sailed up the Kennebec River in April 1634. John Howling, one of the directors stationed at Plymouth's trading post, ordered him to stop. Hocking "bid him doe his worst" as he proceeded to the Cushnoc falls of the Kennebec River. Hocking's bravado put Howling in a difficult position. It being April, the spring fish runs were attracting Indians making it also "the season for trade to come downe." If Howling allowed Hocking to pass he risked forfeiting the entire season's furs to him. Thomas Morton had shown that a single trader could spoil an entire season's trade. Howland pursued Hocking upriver in a pinnace, and after receiving "foule speeches" from him, ordered three men to disembark into a canoe to cut Hocking's cables which would "put him from his anchores" and allow the Kennebec's current to carry the intruder back toward the ocean, and away from prospective Indian beaver pelts. As the three men paddled toward his ship at the base of the falls, the truculent Hocking took up "a carbine and pistole." After successfully severing one of Hocking's two cables, the river's strength pushed the canoe out of reach. Howling then fatefully directed Moses Talbott to jump into the canoe. With the additional muscle power working against the cascade, the four canoeists neared Hocking's final cable. Then as Hocking's ship "shered by the side of the canow," Hocking discharged his musket

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[145] Bradford, *Plymouth Plantation*, 238–42; Morton, *New English Canaan*, 295; A Proclamation Prohibiting Interloping and Disorderly Trading to New England in America (1622) in *Transactions and Collectiosn of the American Antiquarian Society*, ed. Clarence S. Brigham (Worcester, Mass, 1911), 12:33–35; Roberts, "Fur Trade," 56–57.

at point blank range into Talbott's head. Before Hocking could take aim with the pistol in his other hand, an unnamed man standing farther off in Howling's pinnace dropped Hocking with a headshot.[146]

A hasty tribunal was held in Boston to find justice for the two slain men. Although representatives from Hocking's Piscataqua settlement did not attend, the 1629 patent granting Plymouth a monopoly on the Kennebec trade was reaffirmed. Lords Say and Brook of Piscataqua later wrote to Massachusetts Bay officials that "they might have sent a man of war to beat down the house at Kenebeck, for the death of Hockin…they thought better to take another course" and resolve the matter among the other New England colonies.[147]

Despite these successful, if legally dubious, defenses of their patent against Thomas Morton and John Hocking, Plymouth lacked the numbers to enforce its trade monopoly on a far-flung outpost on land that in all practical terms was governed by Native Americans. European traders continued to pull up to the coasts to exchange furs beyond Plymouth's purview. Indians had no obligation to trade exclusively with Plymouth and patronized whichever traders would give them the best value and trade goods. Finally, a whirlwind of biological, ecological, and political factors dramatically reduced the profitability of the fur trade in New England. An epidemic burned through New England's indigenous population in 1636, pushing the bulk of Indian populations even farther from saltwater-bound colonists. Iroquois raids during this time as part of the Beaver Wars only compounded the unrest. And finally, decades of overhunting beaver

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[146] Bradford, *Plymouth Planation*, 304–10; Winthrop, *History of New England*, 1:123–24, 137; "Affray at Kennebeck, 1634," *New England Historical and Genealogical Register* 9 (1855): 80. Bradford refers to Hocking's vessel as a Bark, Winthrop a pinnace, lending further evidence to interchangeable the English

[147] Winthrop, *History of New England*, 128–9, 137. Hocking may have interpreted that Mason and Gorges 1622 grant which extended from the Merrimack to the Kennebec allowed him to trade there. The 1629 patent superseded that claim.

essentially extinguished the trade in southern New England by the mid-seventeenth century and reduced the flow of furs coming down large rivers like the Kennebec and Penobscot to a trickle. By 1639 Plymouth had abandoned its post on the Kennebec, and in 1641 finally sold off its claim to four Boston merchants for £400.[148]

Plymouth's attempts to control the fur trade mirrored the experiences of other New Englanders. Despite vigorous attempts to monopolize the flow of beaver skins by excluding others from riverine spaces, they failed because they did not have the numbers to enforce these claims. Even on the Connecticut River, the Plymouth men who thumbed their noses so effectively at the Dutch in 1633 got a taste of their own medicine two years later when colonists from Massachusetts Bay began settling on the river. To avoid competition for furs and maintain their privileged perch on the region's premiere inland artery, the Plymouth men attempted to send these newcomers packing. But the new settlers legitimized their presence just as Plymouth had snidely told the Dutch before, maintaining that they had bought the land from the "right owners"—that being the Indians. Wanting to avoid the bad experience with John Hocking on the Kennebec the year before, Plymouth relented. [149]

William Pynchon proved to be the exception to most New England fur traders. Dissatisfied with the rocky soil outside of Boston, Pynchon scouted the Connecticut Valley in 1635 and bought land at the most strategic site for trade. Rivers determined his choice. Pynchon planted his settlement, which he called Springfield, upriver of the English squabbling below him.

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[148] Winthrop reported good trade on the Kennebec and Connecticut Rivers in 1634. Winthrop, *History of New England*, 130–31; David J. Silverman, *Thundersticks: Firearms and the Violent Transformation of Native America* (Cambridge, Mass.: Harvard University Press, 2016), 95–100; Cronon, *Changes in the Land*, 99; Roberts, "Fur Trade," 98–109; Emerson Woods Baker, "Trouble to the Eastward: The Failure of Anglo-Indian Relations in Early Maine" (PhD diss., College of William and Mary, 1986), 114–15; Leon E. Cranmer, *Cushnoc: The History and Archaeology of Plymouth Colony Traders on the Kennebec* (Augusta: Occasional Publications in Maine Archaeology Number Seven, 1990) 26–31.
[149] Bradford, *Plymouth Plantation*, 323–26;

Besides leapfrogging competitors by being upriver, Springfield lay at the confluence of the Westfield and Chicopee Rivers which drained into the Connecticut from the west and east. Furthermore, Pynchon bought the land below Springfield at Enfield Falls, the first waterfall on the Connecticut. Both the conveniences and inconveniences of riverine travel conveyed fur-bearing Indians of the central Connecticut Valley onto Pynchon's lands. By following water, where it flowed smoothly and where it smashed against rocks , Springfield had little trouble quickly becoming a nexus for trade. Despite being banished from Massachusetts Bay for heresy in 1652, William Pynchon retired a wealthy man in England while his son John continued to profit from furs into the 1670s.[150]

Going into the 1670s, Indians and Europeans, despite their many differences, had proven that they could live together. This was particularly apparent along the transitory spaces on rivers where the two groups frequently made contact. One can imagine a pair of Indians dressed in woolen English garments paddling upstream loaded with metallic wares while maize-fed colonists drifted downstream in a canoe of Indian design. In often underappreciated ways, both sides had become more like the other. John Josselyn's trip to Maine in the 1640s provides a glimpse into this world, where passing Indians "desired leave to lodge all night in our kitchin" seeking refuge from a rainstorm. Josselyn's brother let the Indian strangers sleep under his table and passed the night without a worry. Josselyn also mentions an Indian fiddler named Scozway, "whom the Fishermen and planters when they had a mind to be merry made use of." William Wood echoed the relaxed attitude toward Indians in 1634, saying "the English hitherto have had

[150] Thomas Hutchinson, *The History of the Colony of Massachuset's Bay* (London: M. Richardson, 1765), 1:98–100; Ruth A. McIntyre, *William Pynchon: Merchant and Colonizer*, 1590–1662 (Springfield, Mass.: Connecticut Valley Historical Museum, 1961).

little cause to suspect them, but rather to be convinced of their trustinesse, seeing they have as yet beene the disclosers of all such treacheries as have bin practiced by other Indians." Although Indian and European strangers most certainly squabbled over prices and cultural misunderstandings at times produced unfortunate results, most of the actual violence was from within. Europeans and Indians needed each other too much to provoke violence.

However, the specter of ecological limitations loomed by the mid seventeenth century. One way to see this was that rivers were becoming more difficult to share. In 1664 Piscataqua Sagamore Wahanamanet complained to New Hampshire authorities that he had been "mollested by Sume Englishemen in his lawfull employmt of fishing in the Rivers, Coves, & other places, & his Cannoees taken from him." Instead of bringing the colonists (whom the court certainly must have known) to justice for violating the Piscataqua Indians' commons rights, the court ruled that only violations committed "hereunto" could receive redress.[151] Wahanamet's experience indicates that colonists were beginning to project the lines which they had drawn on land onto river spaces as well. Growing colonial population was becoming less willing to share rivers with their Native American neighbors. Recent research in watershed ecology shows that beaver dams assist anadromous fish by slackening river velocity, allowing fish to rest as they work their way upstream to spawning grounds.[152] The extirpation of beaver in the fur trade, in addition to aggressive European fishing practices, must have significantly affected the size of fish runs Native peoples depended on for food and fertilizer.

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[151] NH State Papers 40:202–03. 295; Peter S. Leavenworth, "'The Best Title That Indians Can Claime': Native Agency and Consent in the Transferal of Penacook-Pawtucket Land in the Seventeenth Century," *New England Quarterly* 72, no. 2 (1999): 295.

[152] Nicolaas Bouwes, et al., "Ecosystem experiment reveals benefits of natural and simulated beaver dams to a threatened population of steelhead (*Oncorhynchus mykiss*)," *Scientific Reports* 6 (2016), article 28581.

As once plentiful resources grew progressively scarce by the mid seventeenth century, irreconcilable cultural differences regarding English and Indian environmental practices pointed to a coming confrontation of some fashion. When Native Americans entered the European fur trade "a wheel had begun to spin, and most Indians did not know they were on it, much less how to get off."[153] By the late seventeenth century, metal goods and clothing of European manufacture were thoroughly embedded in Native culture. To obtain these items they had hunted beaver to near extinction. Indians and colonists fished from the same streams, yet Europeans harvested river fish more aggressively, reducing fish stocks by exporting them abroad. If rivers had brought Native Americans and Europeans together in the early seventeenth century, they had also bound them together in a world that was fast changing.

[153] Melvoin, *New England Outpost*, 35.

Chapter 2: Waterpower: Indigenous Responses to Mill Technology

"At first, the Indians did not know that the European manner of cultivating lands, and erecting mills and dams, would drive away the game and fish, and thereby deprive them of the means of subsistence; afterward, finding by experience that this was the consequence of admitting foreigners to settle among them, they repented of their hospitality." Jeremy Belknap, 1791[154]

On his scientific tour of North America, Peter Kalm encountered an elderly Frenchman who related to the Finnish botanist Native Americans' first encounter with a windmill, or a stationary power plant driven by the inanimate force of nature. "The Indians had been astonished beyond expression, when the French set up the first windmill," he wrote, "They came in numbers, even from the most distant parts, to view this wonder, and were not tired sitting near it several days together." From time immemorial Native Americans harnessed the animate muscular power of their own bodies, or small domesticated animals, to accomplish the daily tasks of hunting prey, walking across land, paddling over water, or grinding maize. Native Americans sitting in the shadow of the steady, creaking rotations of the mill's billowing sails "were long of the opinion that it was not driven by the wind, but by the spirits who lived within it." When the French constructed their first watermill, onlooking Native Americans "were partly under the same astonishment."[155]

European watermill technology disturbed the diffuse energy dynamic of rivers. No other structure in New England better represented the cultural differences between colonists and Native Americans when it came to the best way to "improve" the environment for human habitation. Mills

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[154] Jeremy Belknap, *The History of New-Hampshire* (Boston: Isiah Thomas and Ebenezer T. Andrews, 1791), 2:44–45.

[155] Peter Kalm, *Travels into North America*, trans. John Reinhold Forster (London, 1771), 2:40–41; A nearly identical account of New England Indian encountering windmill in Wood, *New England's Prospect*, 87; Louis C. Hunter, *Waterpower*, xix-xx.

divided colonists and Indians rather than connecting them as they had done previously. For example, the dugout canoes of indigenous design that had scudded up and down New England's rivers for centuries had by the seventeenth century been outfitted with sails and rudders of European origin. Such canoes embodied the physical and cultural connections rivers fostered between Native and European peoples. Mills and their dams, however, cut across waterways and created physical and cultural divisions between these neighbors by concentrating waterpower at specific sites. Such walls inserted in New England's waterways interrupted the traditional distribution of resources along a river's course, severing connections instead of enabling them.[156]

The environmental impact of watermills on New England rivers triggered confrontations between colonists. Dams crossing rivers that channeled a river's flow toward millwheels blocked fish which Indians depended on for survival. Biologists have shown that these colonial era dams of only a few feet in height destroyed migratory fish populations.[157] Waterpowered saws destroyed Indian hunting grounds at prodigious rates. By upsetting a river's diffuse energy dynamic with mills, colonists made Indians' mobile lifestyle increasingly untenable. Native Americans were not immediately aware of the ecological destruction the English newcomers' mills would wreak. Once they properly understood the impact of mill technology, Indians incorporated them into their conception of space as a borderline between indigenous and colonial space, and were quick to destroy them when disagreements arouse.

Curiously, historians have overlooked the transformation of watery spaces, and instead frame Native-European disputes around land titles. As colonial population grew, the number of

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[156] Gillian Graham, "Canoe that time forgot belongs to Biddeford," *Portland Press Herald*, Feb. 27, 2013.
[157] Carolyn J. Hall, Adrian Jordaan, and Michael J. Frisk "The historic influence of dams on diadromous fish habitat with a focus on river herring and hydrologic longitudinal connectivity," *Landscape Ecology* 26, no. 1 (2011): 95–107; Steven Mattocks, Carolyn J. Hall, and Adrian Jordaan, "Damming, Lost Connectivity, and the Historical Role of Anadromous Fish in Freshwater Ecosystem Dynamics," *Bioscience* 67, no. 8 (2017): 713–27.

mills increased to fulfill their energy needs. The churning of mill wheels were hardly a passive feature on some bucolic colonial New England landscape. Rather, mills were a technology beholden with significant social repercussions, the presence of which was tantamount to a political statement. It is telling that New England's Native peoples only adopted mill technology, and only partially, when they had abandoned their traditional extensive subsistence practices and transitioned to English style husbandry.

Europeans immediately recognized that New England's abundance of steep rivers would be ideal for turning millwheels.[158] Despite having poor climate, rocky soil, and powerful Native American neighbors, New England was blessed with dense forests and swift, plunging rivers which could be harnessed to perform labor colonists otherwise needed to accomplish with muscle and sweat. The region's unique trait of having fall sites near the ocean allowed colonists to plug into river power without venturing far into interior places dominated by Native peoples. This geographic advantage would become especially important because New England struggled to attract settlers, especially skilled workers, which resulted in exorbitant labor costs. Consequently, the mechanical energy inhered in the creaking rotations of millwheels made possible the region's entry into the lucrative Atlantic trade. Before colonization, the English relied on Baltic timber markets, just as they did for furs. The establishment of slave-powered Caribbean sugar plantations and the difficulty reaching Baltic markets courtesy of Anglo-Dutch wars beginning in the 1650s made New England's hitherto unexciting commodities of lumber and fish essential for the running of England's growing Atlantic empire. The owners of the mill

[158] Richard Hakluyt, *A Discourse Concerning Western Planting* (1584; repr., Cambridge, Mass: Maine Historical Society, 1877), 106; Wood, *New-England's Prospect*, 16, 19; Rosier, "True Relation," 385.

operations which processed the wood and corn gleaned a great share of economic and social power from this trade.[159]

From a colonizer's perspective, New England's rivers were one of its few saving graces. The Caribbean and most of South and Mesoamerica lacked a comparable renewable energy source and thus depended on animate muscle, often coerced, and often imported from Africa. The labor saving-power of rivers proved to be an indispensable asset because New England had difficulty attracting settlers. Labor costs soared in a region full of free immigrants who preferred the relatively easy prospects of landed independence to toiling for others.[160] Additionally, the profits in the lumber or grain trade could not compare with the enormous sugar or mahogany profits which made the importation of large amounts of enslaved labor feasible.[161] The labor power gleaned from river-driven mills made the difference in making colonial ventures in New England financially remunerative for investors.[162]

For such important building, mills were shoddy structures. Since they were in such high demand and could be swept away by raging floodwaters, colonial mills were hastily made with little care or attention put into their construction. No images of mills survivie from the colonial

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[159] Joseph J. Malone, *Pine Trees and Politics: The Naval Stores and Forest Policy in Colonial New England, 1691–1775* (Seattle: University of Washington Press, 1964); Charles F. Carroll, *The Timber Economy of Puritan New England* (Providence, R. I.: Brown University Press, 1973).

[160] Josselyn, *Two Voyages*, 207, 209; The difficulty finding laborers led mill operators to seek out unfree labor when they could obtain it. Dozens of workers employed on Piscataqua sawmills were Scots prisoners of war exiled by Oliver Cromwell after the Battle of Dunbar. David Dobson, *Scottish Emigration to Colonial America, 1607–1785* (Athens: University of Georgia Press, 1994), 35–37; Scots Prisoners and their Relocation to the Colonies, 1650–1654, https://www.geni.com/projects/Scots-Prisoners-and-their-Relocation-to-the-Colonies-1650-1654/3465 (accessed June 12, 2018).

[161] Slaves sawed mahogany in British Honduras and Caribbean by hand. Anderson, *Mahogany*, 69.

[162] Roy Hidemichi Akagi, *The Town Proprietors of the New England Colonies: A Study of their Development, Organization, Activities, and Controversies, 1620–1770* (Gloucester, Mass: Peter Smith, 1963), 88–92.

period—they are simply represented only as numbers on maps. Although almost invisible on such maps, their inconspicuous representation belied their importance.[163]

The mechanical power of a saw or grist mill also produced social power for its owners. Historians have troubled the old notion that New England communities were democratic communes and instead have shown them to be quite hierarchically organized. The leading men in these communities sought to reenact the power structure of the English manorial system where "the most symbolic expression of local preeminence was ownership of the community's mills."[164] Millworks provided their owners a supplemental source of income and often more importantly secured their position as a pillar of a community. Sites with sufficient waterpower to drive a mill were limited in a town, so owners of fall sites usually possessed a natural monopoly. When townsmen (and sometimes Indians) came to the mill to obtain milled lumber or grist, the miller kept a portion of the final product as a toll. This toll was then divvied between the miller operating the machine and the owner. Even if a mill was not particularly profitable for its owner, its central position furthered their influence since the structure touched nearly everyone in a community on a personal level. People "milled about," or convened in the vicinity of millworks to trade, share news, and socialize. However, if a mill did produce significant revenue, waterpower could enhance an eminent man's fiscal power over neighbors by providing additional capital which could be reinvested. For example, Springfield founder William Pynchon owned most of the mill rights in town and was the leading creditor.[166] It was no coincidence that Richard Waldron represented Dover, New Hampshire in the General Court more than anyone

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[163] Mills are represented as numbers J. S., Pascatway River in New England; William Godsoe, "A Plott of Mr. Humphrey Chadburns Farm Sturgen Creek Taken October 6 –7, 1701," MEA.
[164] Stephen Innes, *Labor in a New Land: Economy and Society in Seventeenth-Century Springfield* (Princeton, N. J.: Princeton University Press, 1983), 34.
[166] *Pynchon Papers*, 2:211–18; Innes, *Labor in a New Land*, 17–21.

else before his death in 1689 and was the first to put mills on the Cochecho Falls—the energy source around which Dover grew.[167] Lord Proprietor of Maine Fernando Gorges described his "necessary meanes of profit" in 1658 as "his Saw-Mills and Corne-Mills."[168]

The rhythmic shushes of a millwheel were the veritable heartbeat of a community. Massachusetts apprized the operation of mills so vital they exempted millers from militia service just like ministers and council members.[169] Seventeenth-century colonial mills required a minimal amount of waterpower so their dams were only a few feet high and crossed small streams. These dams channeled a river's flow into a raceway that fed a paddled wheel, engaging a nexus of wooden shafts and toothed gears which ultimately breathed life into saws or massive grindstones. Colonists could not access this energy source on demand. Much like the appearance of fish protein in the spring and fall, early mills could only tap into river energy on a seasonal basis. Frozen streams in winter or low water in summer stalled millwheels, producing blackout conditions. Samuel Sewall recorded in his diary the unfortunate fate of one man in January 1704, who "was pecking Ice of the Mill-wheel, slipt in and was carried and crush'd, and kill'd, with the wheel." In 1722 Sewall welcomed "Plentifull Showers of Rain after long distressing Drought…Now Men and Beasts have Water to drink: and the Grist-Mills, and Saw-Mills that lay unoccupied, are set to work again." Conversely, a power surge in the form of unpredictable spring floods occasionally washed away the mills precipitously perched beside riverbanks.[170] Regardless of their limitations, mill structures were frequently the first non-residential building

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[167] *Collections of the New Hampshire Historical Society*, 8:333–36; Jeremy Belknap, *The History of New Hampshire* (Boston, 1792), 1:323–4; George Wadleigh, *Notable Events in the History of Dover, New Hampshire* (Dover, 1913), 21, 29; NH State Papers 2:540–41.
[168]*Sir Ferdinando Gorges and His Province of Maine*, 2:70; for New France, see Edwin C. Guillet, *Early Life in Upper Canada* (Toronto: University of Toronto Press, 1933), 38, 39, 64, 143.
[169] AR 1:130; Mass. Bay Records 1:258
[170] *Diary of Samuel Sewall, 1674–1729* in CMassHS 5th ser., 2:90, 1:463, 3:311.

in a settlement because their labor-saving virtues either attracted new colonists or processed more commodities for proprietors looking to eke out a buck from New England's barren soil. Besides saving days of backbreaking labor in a week for colonists, the excretions of flour and lumber from humming mill machinery was of higher quality than products worked by hand.[171]

The social power inherent in mill ownership impelled local government to heavily regulate mills because the steady flow of water-powered energy was essential for the survival and success of a colony. Proprietors initially retained rights to waterpower, but this authority devolved to towns once these founding men died or sold their claim.[172] Recognizing the undue influence ownership of mill energy lent their owners, communities guarded mill "privileges" or "seats" closely. To obtain a mill privilege on a town's watercourse, prospective owners needed to obtain permission from the town and have the structure open and operating by a set date or forfeit their claim. Towns counteracted a mill's monopolistic hold on mechanical energy by setting price ceilings to prevent a miller's abuse of his position. In 1639, Massachusetts Bay fined a Mr. Waltham and Mr. Richards five shillings "for want of scales & weights in their mill," with Waltham fined an additional three pounds "for takeing too much tole, in some[sum] above double what dew" with twenty shillings going to compensate witnesses.[173] If a community was in its early stages and struggling to attract settlers, inducements such as land or money were

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[171] Hunter, *Waterpower*, 1–50; "The mill was often the first non-domestic building erected in the new settlement." Carol Priamo quoted in Jenny Clayton and Philip Van Huizen, "Water Power before Hydroelectricity" in *Powering Up Canada: A History of Power, Fuel, and Energy from 1600*, ed. R. W. Sandell (Montreal: Mcgill-Queen's University Press, 2016), 185–211; Mary A. Stephenson, *Mills in Eighteenth-Century Virginia* (Williamsburg, Va.: Colonial Williamsburg, 1947); "Skilled labor continued to command a relatively higher price in Massachusetts than it did in England throughout the seventeenth century. This fact in itself suggests the reason—economy—that within a generation the countless streams that laced New England were harnessed to provide the power to run mills of all sorts." Benno M. Forman, "Mill Sawing in Seventeenth-Century Massachusetts," *Old Time New England* 60 (Spring 1970): 112.

[172] Richard M. Candee, "Merchant and Millwright: The Water Powered Sawmills of the Piscataqua," *Old-Time New England* 60, no. 4 (1970): 132; Hunter, *Waterpower*, 30.

[173] Mass Bay Records 1:267

offered to attract a miller. However a community more confident of its position could demand stipulations such as severely discounted lumber or grist or require that it could only employ locals. Colonial New England mills and the waterpower which drove them was owned by the community for the benefit of that community. That being said, most of the early sawmills in New England were financed by merchants based in established seaports such as Boston or Salem. The point is that these mill privilege contracts with towns meant that mill operations would first benefit the communities in which they operated before they generated revenue for their investors.[174]

Since there was no analog for mill technology in Native American culture, the appearance of mills introduced a new method of harnessing waterpower to New England. Ironically, it seems Englishmen grasped mill technology little better than Indians. Sawmills were noticeably absent from seventeenth-century Britain, which left them without the knowledge to construct them, and consequently unable to build them in America. The dearth of sawmills in Britain through the eighteenth century led many contemporary observers to falsely assume Parliament had banned them from the country. E. W. Cooney posits that the depletion of timber in early modern Britain combined with low labor costs made the capital investment necessary for sawmill construction unnecessary. Additionally, England's rivers were so choked with gristmills that floating logs was impracticable. Depleted forests, low labor costs, and high transportation costs made it more economical for English sawyers to mill wood as it had been accomplished for

[174] John G. Reid, *Maine, Charles II and Massachusetts: Governmental Relationships in Early Northern New England* (Portland: Maine Historical Society, 1977), 3–4; Jere Daniell, *Colonial New Hampshire* (Millwood, N. Y.: KTO Press, 1981), 53–54; Candee, "Merchant and Millwright," 135–36.

centuries: by hand in saw pits. By the early modern period, a deforested Britain was importing much of its wood from the Baltic.[175]

The conditions for a timber industry in New England were the opposite of England: labor costs soared and the forest seemed limitless. Yet English ignorance of the technology to effectively cull the land of this commodity posed an initial stumbling block. John Josselyn described seventeenth-century farmers in the eastern wooded parts of New England as “restless pains takers” who cleaved “claw-board and pipe staves” by hand. Hand-cut timber was among the first commodities Pilgrims sent back to Europe..[176] Since men knowledgeable of sawmill technology could not be found in England, George Mason hired Danes familiar with these machines to initiate his timber operation in 1635 on the Piscataqua River once his attempt to use that waterway to locate furs foundered. Financial success was hardly immediate upon a sawmill’s completion. In 1640 John Winthrop remarked that “nothing prospered” there. The letters of the twenty-two year old Deputy Governor of Maine Thomas Gorges bemoaned of millworks constantly on the fritz. The need to import parts and the lack of capital in the colony slowed maintenance.[177]

By the 1660s sawmill operations were on a steadier footing. Samuel Maverick witnessed “Excellent Saw-Mills” in four of the six communities scattered along the Piscataqua River.[178] The demand for food to feed slaves and timber for buildings on the recently established English sugar colony in Barbados created a ready market. Iberia and its possessions in Madeira and the

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[175] Hakluyt, *Discourse Concerning Western Planting* 106; E. W. Cooney, "Eighteenth Century Britain's Missing Sawmills: A Blessing in Disguise?" *Construction History* 7 (1991): 29–46; Robert E. Moody, ed., *The Letters of Thomas Gorges: Deputy Governor of the Province of Maine, 1640–1643* (Portland: Maine Historical Society, 1978), 2, 13, 30, 46, 63–5, 100–01.
[176] Josselyn, *Two Voyages*, 208; Winthrop, *History of New England*, 2:10.
[177] NH State Papers 1:45.
[178] Maverick, "A Briefe Description of New England,” 36–7; Edward Johnson, "Johnson's Wonder-Working Providence" in *Original Narratives of Early American History*, 207.

Azores also hungrily consumed sawdusty shanks of New England oak, elm, beech, fur, and pine.[179] By 1706 around seventy watermills powering up to four saws each sat on the Piscataqua "noisily ripping New Hampshire and Maine pines into planking." In 1747 Daniel Neal reported "here are 90 Saws carried round by Streams of Water, and 130 Team of Oxen constantly employed in the drawing Logs of Timber to the Saws" producing six million feet of cut board per year.[180] Scholars discount the early environmental impact of these sawmills considering the amount of power running the saws only amounted to "several horsepower." Such a technology is depicted as "primitive" since their size paled in comparison to massive textile mills erected at the turn of the nineteenth century. Rather than being a negligible improvement in their lives, colonists must have certainly appreciated the fact that one man operating a waterpowered sawmill could cut twenty times more timber than by hand—and of higher "merchantable" quality too.[181] Inspired by the demand for timber in the West Indies as well as Europe, such machines devoured New England's forest. Neal commented in 1747 that in Exeter, New Hampshire, which sat on the uppermost branch of the Piscataqua, the forest had been "pretty well cleared." Emmanuel Bowen added that same year that "so much has been cut within 10 or 12 Miles from the Sea, that 'tis said there's a Necessity for a Law to prevent the Waste of the Woods, which 60 or 80 Years ago, the Planters would have been glad to have seen consumed."[182] Millowners in

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[179] Nathaniel Uring, "Notices of New England" (1709), *Collections of the New Hampshire Historical Society* (1833), 3:143–44; Dummer, *Defence of the New England Charters*, 11–12; "Copy of a Paper endorsed Mr. E. R's Narrative Sept. 20th and Octo. 12th 1676" in *The Hutchinson Papers* (Albany: Prince Society, 1865), 2:230–31; First record of Thomas Pynchon exporting wheat to Barbados occurs in 1652. *Pynchon Papers*, 2:218; Bowen, *Complete System*, 2:675–76; On wood scarcity, see John T. Wing, *Roots of Empire: Forests and State Power in Early Modern Spain, c. 1500–1750* (Leiden: Brill, 2015); Robert Albion, *Forests and Sea Power: The Timber Problem of the Royal Navy, 1652–1862* (Cambridge, Mass.: Harvard University Press, 1926).

[180] Daniel Neal, *The History of New-England* (London: A. Ward, 1747), 213; NH State Papers 2:358; Malone, *Pine Trees and Politics*, 57.

[181] Cronon, *Changes in the Land*, 119; Steinberg, *Nature Incorporated*, 27–28; rate of ten times calculated from Forman, "Mill Sawing," 119–20; "several horsepower," Hunter, *Waterpower*, 37; "primitive," Barton, *The Changing Nature of the Maine Woods*, 104–07.

[182] Neal, *History of New-England*, 212–3; Bowen, *Complete System*, 2:663.

Maine, New Hampshire, and the Connecticut Valley reaped the economic and social power of this growing trade. Every member of the New Hampshire Council in 1708 owned a sawmill. In 1734 Massachusetts Governor Jonathan Belcher remarked "If Owners of mills & those that supply lumber men must be in no civil Post in New Hamp[shir]e, there will be very few to be found capable of any Part of the Government."[183] Their position was owed not to their ownership of slaves or a privileged trade monopoly, but the "Unseene" strength of river energy which animated their saws and grindstones.

Incompatibility

New England Indians found mills to be a technology largely incompatible with their own political economy. Besides being extremely technical structures to construct, millworks chafed against Indians' mobile economic preferences and performed labor in excess of Indian demands which could be more readily performed by hand. Mills also disrupted the diffuse riparian energy dynamic Native peoples valued so much.Instead of being instinctively attracted to a more powerful technology, most Native Americans found wind and water mills and their potential for increased energy consumption culturally incompatible with their own economy in the seventeenth and eighteenth century. Only when Native peoples adopted English lifestyles, or were "reduced to civility" by colonizers, did Indian mills begin to appear.[184] Such actions were often taken by Indians as a last resort, when the alternative was dispossession from their land.

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[183] Bernard Bailyn, *The New England Merchants of the Seventeenth Century* (Cambridge, Mass.: Harvard University Press, 1955): 161; Malone, *Pine Trees*, 66; Clark, *Eastern Frontier*, 52–62; Jonathan Belcher to David Dunbar, May 2, 1734, Jonathan Belcher Letterbooks, Massachusetts Historical Society, Boston, microfilm, Reel 4.

[184] A recurring theme of energy histories is a narrative arc tracing the increase in humanity's consumption of energy, the implication being that humans instinctively prefer access to more power if given the choice. Alfred W. Crosby, *Children of the Sun: A History of Humanity's Unappeasable Appetite for Energy* (New York: W. W. Norton, 2006).

The so-called "friendly" or "Praying Indians" who took this accommodationist path rather than persisting in more traditional practices elsewhere usually found themselves in an economically dependent relationship to neighboring Euroamericans.[185]

Some of the largest obstacles to Indian adoption of mechanical mill technology was their preference for mobility and traditional gender roles. Water or wind-driven mills required a permanent structure fixed athwart a particularly stiff current of wind or water. Indians preferred the independence of a mobile existence and being able to gather resources at a whim. The Native Americans of New England adapted to the region's harsh seasonal differences by exploiting the annual rhythms of abundance found in different habitats. From approximately May to September they gathered near coasts or waterways to grow maize and harvest sea creatures. In the remaining harsher winter months, when large animal protein was their major source of sustenance, Indians broke into small hunting bands which more evenly distributed pressure on animal populations. This economic system worked largely in tandem with nature in order to find a balance in labor that maximized consumption while minimizing human exertion. Constructing and maintaining a mill structure did not fit into this subsistence strategy and ultimately must have been interpreted as considerably burdensome by mobile Native peoples.[186]

Another obstacle to adopting mill technology was gender roles in Woodland Indian society, which were strictly circumscribed. Men's activities were defined by mobility: hunting, fishing, and conducting warfare. Women's labor was more compatible with the needs of rearing young children, and were characterized by stationary, repeatable labor which could be easily interrupted. Native American women also grew or foraged for plants and processed them for

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[185] Jean M. O'Brien, *Dispossession by Degrees: Indian Land and Identity in Natick, Massachusetts, 1650-1790* (Lincoln: University of Nebraska Press, 2003), 7, 67.
[186] Cronon, *Changes in the Land*, 37–41. That seasonal changes in New England were more extreme than other places can be seen in that the limits of agriculture on the continent lay at the Kennebec River.

preservation and consumption. Roger Williams observed with admiration the amount of effort Narragansetts dedicated toward processing maize, remarking "Their women constantly beat all their corne with hand: they plant it, dresse it, gather it, barne it, beat it, and take as much paines as any people in the world," to which he humorously attributed "questionlesse one cause of their extraordinary ease of child birth."[187] Water and windmills performed such work, and the operation of such machines was likely identified with women. Indian men disdainfully entertained the prospect of toiling in the fields like European men. Europeans interpreted this intransigence as evidence of Indian laziness, while Indians mocked their European male counterparts as being womanly. The intractability of this cultural difference made it even more unlikely that mill technology would transfer from Europeans to Indians. Moreover, millwrights required extensive training, or at least familiarity with carpentry, joining, masonry, and blacksmithing.[188] Native Americans adopted the latter two for the purposes of warfare.[189] However the association between food processing, gender, and mills may have been too much for Native peoples to countenance. The English would not likely train a female millwright, and a Native American male with the skill to construct a wind or watermill would not likely be immediately respected in his community.[190]

Where Native Americans saw benefits in European technology, they seized the opportunity as quickly as possible to comprehend it. Their knack for quickly mastering European

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[187] Williams, *Key*, 37.
[188] Hunter, *Waterpower*, 91–93.
[189] Nathaniel Saltonstall, "A Continuation of the State of New England, 1676," in *Narratives of the Indians Wars, 1675–1699*, ed. Charles H. Lincoln (New York: Charles Scribner, 1913), 58–59; Nathaniel Saltonstall, "New and Further Narrative of the State of New England, 1676" in ibid., 95–96.
[190] The experience of the seventeenth-century Praying Indian Anthony suggests that many colonial New England artisans were hesitant to train Natives. "I desired to learn Smithery: But my Master said, I may not teach him my Trade, lest Indians learn to make Locks and Guns." Michael P. Clark, ed., *The Eliot Tracts: With Letters from John Eliot to Thomas Thorowgood and Richard Baxter* (Westport, Conn.: Praeger, 2003), 365.

technology astounded Europeans. While observing Christian Indians, Massachusetts Governor John Endecott marveled at their ability to build English-style homes, especially considering that "there being but one English man a Carpenter to shew them, being but two dayes with them, is remarkeable."[191] The Native Americans of New England quickly mastered guns. Despite being unable to forge iron to create these weapons, Indians earned reputations as being better marksmen than Europeans. Indians also incorporated traditional skills used to create arrowheads and other sharp objects out of stone to sharpen their gunflints. Guns were so pervasive among Indians from New France to New York that John Josselyn observed as early as 1663 that "he is a poor Indian that is not master of two guns." During King Philip's War the English discovered three separate blacksmith forges operated by Narragansetts. Indians recognized the power of firearms, then incorporated and reinterpreted its meaning into their culture.[192]

New England's Indians did not see similar worthwhile advantages in European mill technology. Whereas guns and metal offered clear and immediate benefits to Indian lifeways, milled grist or boards did not, and their adoption required significant cultural baggage. Although Indians probably valued the labor grist mills saved, they found reorienting their mobile society around such a permanent structure more of an inconvenience. Sawmills had even fewer advantages. Sawed boards were cumbersome, and besides repairing European ships they had commandeered, boards had practically no use in Native society. In fact, Puritan missionaries interpreted Native adoption of wooden boards for housing an important marker of making them English. Indians unwilling to ape sedentary European lifeways saw little benefit in boards. Wigwams were in many ways a superior dwelling technology since they could be assembled quickly from surrounding tree branches and bark and were reportedly quite snug. William Wood

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[191] Henry Whitfield, "Strength Out of Weaknesse," in CMassHS 3rd ser., 4:190.
[192] Malone, *Skulking Way of War*, 68, 74–75; Silverman, *Thundersticks*; Josselyn, *Two Voyages*, 146–47.

in 1634 reported that wigwams were "warmer than our English houses." Whatever other finished European goods Indians desired they could more easily acquire through bartering flora and fauna they gathered, or plunder, than by erecting their own mills.[193]

Indian disinterest in mills was in great contrast to the civilizing quality such machines had for colonists. The American wilderness represented disorder for many New Englanders, and preachers feared exposure to this untamed land would tempt them into degenerating to the heathen status of its native inhabitants.[194] One of the most symbolic ways to differentiate themselves from Indians was to construct "fair, and well-built houses" as soon as practicable. Wigwams represented disorder, or a regression toward barbarism. In one 1714 sermon, Cotton Mather roared that English children taken captive in the late war "are now Indianizing in the remote and wretched Wigwams of the Wilderness!" In an effort to control trade in 1643, Connecticut regulated commerce to English spaces, which they defined largely by the presence of milled lumber by prohibiting trade with Indians "at or about their wygwams" and only in view of English "vessels" or "their owne howses."[195] In 1650, missionary John Eliot sought to establish Christian order in the Praying Indian village of Natick by specifying that its church "cannot be in Wigwams" and "set them therefore to fell and square timber for an house." When an Indian named Antony was struck in the head while cutting boards in a sawpit, John Eliot feared the incident "might discourage them from Labor." Antony miraculously recovered, which

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[193] Chaplin, *Subject Matter*, 206, 225; Williams, *Key*, 33; Josselyn, *Two Voyages*, 126; Morton, *New English Canaan*, 134–38; Wood, *New England's Prospect*, 106.

[194] "…the Divell may carrie a greater spite against the churches of Christ and the gospell hear…Satane hath more power in these heathen lands, as som have thought, then in more Christian nations." Bradford, *Plymouth Plantation*, 364. Slotkin, *Regeneration Through Violence*, 153–55; Lepore, *Name of War*, 76–79; 21.

[195] Cotton Mather, *Duodecennium Luctuosum* (Boston: Samuel Gerrish, 1714), 20; Johnson, "Wonder-Working Providence," 211; Alison Stanley, "The Praying Indian Towns: Encounter and Conversion through Imposed Urban Space," in Daniel Maudlin and Bernard L. Herman, ed., *Building the British Atlantic World: Spaces, Places, and Material Culture, 1600–1850* (Chapel Hill: University of North Carolina Press, 2016), 153–57; PRCC 1:95.

led Eliot to conclude "God blessed this blow" to encourage the Indians to finish building a schoolhouse in the English style.[196]

This cultural dissonance regarding mills can best be seen by looking at the Christian Indians living under the supervision of English missionaries in Massachusetts. Although Puritan missionaries wanted Indians to adopt an English lifestyle, and many Indians desired to "be more like my Christian neighbors," most Indians at the mission villages of Hassanamisco and Natick preferred living in wigwams to European-style homes. Their aforementioned acuity in constructing such structures shows that it was not for a lack of ability that they did not build these homes, rather a choice. In a 1651 visit to Natick by Governor John Endecott, he reported that the Christian Indians at Natick "intend to build a Water-Mill the next Summer." The Governor and his retinue had even advised the Indians on where to place such a mill on a creek in the town. That this structure was never completed, and that Natick Indians would request that an Englishmen build and operate a mill for them twenty-four years later speaks to this incompatibility, or unwillingness to adopt, mills.[197]

The only instance during the prewar period when mill technology might have attracted Indian interest was regarding gunpowder. A fundamental concern for both European colonists and Native Americans was the supply of firearms and ammunition, and in particular the steady supply of their catalyst: gunpowder. Both colonists and Indians weighed the merits of guns against bows in the early seventeenth century. Guns were a fairly new technology even in English culture, and like New England's indigenous peoples, many were still skilled archers. The

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[196] Henry Whitfield, "The Light Appearing More and More Towards the Perfect Day" (1651), in CMassHS 3rd ser., 4:138; John Eliot, "Tears of Repentance" (1653), in ibid., 4:256. The Natick community was too far from a sawmill and thus sawed logs by hand.

[197] Whitfield, "The Light Appearing," in CMassHS 3rd ser. 4:138; Gookin, "Historical Collections," in CMassHS, 1st ser., 1:149–50; James Axtell, *The Invasion Within: The Contest of Cultures in Colonial North America* (New York: Oxford University Press, 1985)., 141; Whitfield, "Strength Out of Weaknesse," 174, 191; MA 30.307.

debate within colonial and Natives societies over whether to use guns or bows stemmed from an anxiety concerning supply. Seventeenth-century New Englanders imported their weapons and gunpowder from Europe. If supplies from across the Atlantic stopped or were unable to respond to emergencies in their months-long voyage, the absence of gunpowder rendered guns ungainly, oblong clubs. Although colonists tried to keep firearms out of Native American hands, David Silverman has shown these attempts were ineffective. New England's Native Americans from Maine to Connecticut bought guns and powder from the French, Dutch, and any black market dealers willing to sell. To lessen their dependence on European sources, Natives learned to make ammunition and repair their own pieces. However, they still needed European intervention to fix major damages and to supply them with gunpowder. This concern was shown when Indians captured two girls during the Pequot War in 1636 who then tried to coerce their prepubescent captives into teaching them how to make gunpowder. Through the eighteenth-century, Indians would request gunsmiths to be stationed near them in treaty negotiations.[198]

Making gunpowder posed several technological hurdles for Native Americans. Gunpowder consists of charcoal, sulfur, and saltpeter. Natural deposits of the latter two ingredients were difficult to find in North America. Saltpeter was particularly difficult to come by as it was made through a complex process of letting piles of manure fester, then refining the residue with "further sequences of watering and dissolving, boiling and straining" until it was suitable for gunpowder.[199] Gunpowder is made by mixing, or grinding saltpeter, charcoal, and sulfur together. The more consistent and fine the admixture, the better the firing performance. Grinding those three ingredients with a millstone produced the most consistent final product.

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[198] Chaplin, *Subject Matter*, 80–82. By the 1770s, Americans were still importing 90% of their saltpeter from the French West Indies.
[199] David Cressy, *Saltpeter: The Mother of Gunpowder* (Oxford: Oxford University Press, 2013), 18–22; Mass Bay Records 2:261; 4 (part 2):320.

The renowned skill of Native marksmen would have made them particularly discerning on this issue, which probably ruled out making gunpowder with a pestle and mortar like maize. Indians found it was easier to trade for or steal gunpowder than make it on their own. Although they were generally well supplied, the reliance on trade or plunder for supply could be spotty, and would prove fatal for Metacom's Indian coalition in 1676.

Serendipitously, the Massachusetts Bay Colony constructed its first gunpowder mill only a few months before it was surprised by the outbreak of hostilities in King Philip's War in 1675. The mill sat just outside of Boston, powered by the flow of the Neponset River.[200] Since England failed to boost New England's powder supply during that conflict, the mill's existence was a significant part Massachusetts' successful war effort. After the first Indian attacks in 1675, colonists quickly realized the military importance of the mill and kept it under guard, even building a stone watch house, fearing that Indians might steal the powder or worse learn the process of making it.[201] William Harris of Rhode Island expressed this concern among colonists, writing "I fear that they will fall into the capability all too soon, for since the colonists now make powder, the Indians are so clever that they will learn the method one way or another. They are by nature admirably ingenious, and usually achieve rather quickly anything they have mind to." Harris' admiration of Native American ingenuity suggests that they could have built mills if they had wanted to. That they did not, like the preference for wigwams in Christian Indian communities, is the closest we may get to seeing a conscious choice by New England's Indians rejecting mill technology. English colonists interpreted such rejection of what they saw as clearly a more powerful technology as evidence of Native savagery, or inferiority. In truth, the manner

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[200] Randolph's Report to the Committee for Trade and Plantation, Oct. 12, 1676 in Robert Toppan, ed., *Edward Randolph: Including His Letters and Official Papers...1676–1703* (Boston: Prince Society, 1898), 2:238.
[201] Mass Bay Records 5:48, 51, 73.

in which Europeans consumed greater amounts of energy was incompatible with New England Indian economy and culture.[202]

Differing opinions on the utility of mill technology would have been tolerated on their own if the mills did not impact Indians. But they did. William Cronon and Virginia Anderson have made important contributions recounting how the introduction of fences and cattle to New England's landscape brought colonists and Indians into confrontation. However, their work hops over the serious environmental changes wreaked by Europeans on waterways. By 1700 the overall population of New England returned to pre-contact levels. Apart from the diminishing amount of resources that comes with more mouths to feed, European husbandry practices intruded on Indians' mobile economy. As Cronon observed, fences interrupted Native mobility by blocking access to hunting or foraging grounds. Anderson has shown that English cattle grazed beyond the bounds colonists' property and consumed the crops and plants which Indians depended on for survival.[203] What has not been fully appreciated is that as the number of watermills increased to meet colonial energy demands, fish migrations into interior regions ceased, or were severely diminished. The liberal use of seines or weirs also contributed to this decline. Just like fences or cattle, milldams enabled colonial expansion. Since New England's Native people depended on fish runs to survive lean spring times, they needed to confront mill construction or radically alter their economic practices.

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[202] Arthur Pine Van Gelder and Hugo Schlatter, *History of the Explosives Industry in America* (New York: Columbia University Press, 1927), 29-36; Douglas Edward Leach, *A Rhode Islander Reports on King Philip's War: The Second William Harris Letter of August, 1676* (Providence: Rhode Island Historical Society, 1963), 65; Malone, *Skulking Way of War*, 96.
[203] Anderson, *Creatures of Empire*; Cronon, *Changes in the Land*, 42.

War

When Androscoggin Indians met with Dover, New Hampshire minister John Pike in 1688 to explain their reasons for war they listed five main grievances. Three of those grievances were environmental pressures: English land encroachment, havoc wreaked by their wandering cattle, and being "invaded in their fishery" on the Saco River. Adding that "They thought (though the English had got away their Lands as they had, yet) the Fishery of the Rivers had been a Priviledge reserved Entire unto themselves." In their meeting with Pike, the Androscoggins complained of English nets and seines blocking the fish. Although overfishing was a likely culprit—Massachusetts was passing regulations on the Merrimack sturgeon fishery as early as 1673—English mills on the Saco and other New England rivers also contributed to the problem.[204]

It is difficult to speak on the Indian wars in New England in a collective sense because they involved different actors in different contexts and occurred at varying intensities between 1675 and 1763. That being said, the Indian causes for war nearly always had something to do with the threat of their dispossession at the hands of advancing colonists. This threat was not merely the loss of land through sale, but also the loss of the resources on that land necessary for survival. As Virginia Anderson has explored, Indians reclaimed their rights to resources by killing the English cattle which wandered onto their territory and devoured food sources Indians traditionally relied upon to survive. When looking at other patterns in Indian attacks from Connecticut to Maine, mill buildings were frequently destroyed. Why Native Americans would target mills has hitherto been unexplored in much depth by historians.

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[204] Mather, "Decennium Luctuosum," 61; Mass Bay Records 4 (part 2):553.

If one considers the environmental impact of colonial mills on their surroundings, it becomes clear why Indians wanted them removed, and also why colonists were so keen on preserving them.[205] Mills, sawmills in particular, killed fish. Four years after the Androscoggins met with John Pike, they and their Wabanaki allies had laid much of northern New England to waste. Massachusetts pleaded with its sister New England colonies for help. In his letter refusing aid, Rhode Island governor John Easton repeated a rumor that "thay say that ye Indians had some Just caus of offence that Corn was promest them for harm thay Receved by Sawmils soylling their fishing" and advised Massachusetts reach terms with the Indians. Regarding Corn, Easton was referring to a provision in the 1678 Treaty of Casco, which unfortunately does not survive, so there is no way to confirm the veracity of his assertion. He may also have been confusing Pike's 1688 account of Androscoggins complaining about overfishing in the Saco River. Regardless, Governor Easton's guess on the origins of King William's War shows an awareness that mills had severely detrimental effects on river fish.[206] A 1695 petition from nearby Plymouth and Middleborough, Massachusetts offer vivid testimony of this phenomenon.

> by the blessing of god was haud hitherto had the benefit of the fish called herrings: which come up the rivers near unto us: which are greatly beneficial for the raising of our Indian corn: without which we cannot subsist: but we are now in dayly Expectation of saw mills: being set up upon our herring rivers: and we know by experiences that where sawmills haud ben sat upon herring Rivers it doth to fully destroy the fish…you would take some effectual course that there may be no sawmill nor dam: or any other nuisance in any herring River: whereby the fish may be hindred from their free passage up said Rivers to the ponds where they usualy Spawn.[207]

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[205] Lisa Brooks has interpreted New England's burning of mills as a "symbolic act" which sought a "rebalancing" of the region's resources. Lisa Brooks, *Our Beloved Kin*, 214–15; Grandjean, *American Passage*, 148.
[206] DHSM 5:300–01, 306; Colonial observations on the detrimental effects of sawdust on anadromous fish has been backed by scientific research. A. P. Knight, *Sawdust and Fish Life* (Toronto: Murray, 1903), 41; N. J. Poole, et al., "The Effects of the Pulp and Paper Industry on the Aquatic Environment," *C R C Critical Reviews in Environmental Control* 8 (1977): 153–95.
[207] MA 113:107.

A 1769 act to preserve fish in the Ipswich River banned the sawing of wood during fish migrations since "it has been found by experience that sawdust floating in streams where fish pass does much obstruct their passage." While sawmills produced wealth for their owners or building supplies for colonists, they destroyed an important food source for Native Americans. This must have been especially troubling in northern New England, where agriculture was only sporadically practiced. Losing river fish could be a life or death issue.[208]

When Indians visited mills, they felt out of place. The mechanistic nature of these machines clearly disturbed them since they entered a mill only "so farre as they have an English guide." Native Americans compared grindstones to "sharp teeth biting the corne," likening mills to a rapacious animal or person who never stopped consuming.[209] Hoarding resources in such a way grated against Native beliefs that emphasized even distribution. In Natives' minds, although an impressive technology, mills were no different than the giant beavers or mud creatures in their legends which block rivers and hoard resources. Just like their heroes who confront and destroy these creatures, Indians held antipathy, if not outright hostility toward mills.

For colonists, mills made life easier, while for Indians, they consumed limited resources at unforeseen amounts. Sawmills transformed forests from timber into lumber much quicker than a colonist and an ax. Bureaucrat John Bridger informed the Commissioners of Trade from Portsmouth in 1718 that "These parts being now Settling, and the People building Saw Mills on every River and Brook almost which will soon destroy those Fine Trees and all others, unless an immediate care be taken." Likewise, gristmills saved days of backbreaking labor processing wheat into flour which allowed colonists to bring wider swaths of land under cultivation. In 1680, a committee assigned to resettling the devastated community at North Yarmouth

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[208] AR 5:32; PRCC 1:246.
[209] Wood, *New England's Prospect*, 87.

recommended that "the building and Improvinge of the Mill Erecketed in that Towneshipp…will be the Maine & cheife Incoradgement to the first settlement of the said towne, without which we Cannot se at present a likelihood of any convenient progresse in settleinge." The additional trees or crops processed by waterpower were frequently commodified and sold abroad to hungry Atlantic markets across the horizon.[210] Although mills made colonization a worthwhile financial endeavor in many parts of New England, they introduced disorder into the lives Native people struggling to maintain their autonomous mobile lifestyle.

The lumber or grist emitted from a colonial mill also had a psychic effect on colonists. Living on the edge of Christendom and surrounded by, in their view, heathenish barbarians made English colonists extremely sensitive to create aspects of what they perceived to be civilization, or order in America. Eating lumpy corn mush instead of fine milled flour or living in a hovel of felled trees instead of a house of lumber with neat geometric angles was seen by religiously-minded New Englanders as a relapse into savagery. This was especially galling for leaders trying to construct a model Christian society. Colonists living beyond the comforts of milled food or building materials were often critiqued as "living like Indians" and "Unchristian."[211] Besides transforming New England's resources into items along a more European cultural orientation, mills also produced the trappings of an orderly, European society. In sum, mills were structures with significant political and cultural import because they rendered New England's environment into colonial space. By immolating these mill structures, Indians sent a symbolic and practical message that the surrounding land was being restored along an indigenous understanding of environmental stewardship.

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[210] DHSM 9:425, 4:399
[211] Mather, "Decennium Luctuosum," 55.

After a successful attack on Medfield, Massachusetts in 1675 an Indian left a now famous note which partly read "You must consider that The Indians loose[sic] nothing but their lives, you must loose your fair houses and cattle." The message hinted at Native strategy during King Philip's War and its successors. Unlike Indians, Europeans dwelt in fixed locations in permanent structures and were thus easy to find. And whereas Indians could scrounge their natural surrounding for food, colonists relied on their cattle and crops to survive. The fences and buildings which the English called "improvements," and were markers of European property and order, also made settlers vulnerable targets. Once the food sources behind fences or baying inside barns were destroyed, English settlers easily became refugees. An intrinsic part of reversing English "improvement" of the land was destroying mills.

Colonists' deep attachment to the conveniences of their mill were laid bare during wartime. Captain Joshua Scottow wrote from Scarborough, Maine to Massachusetts Governor John Leverett during King Philip's War in 1675 that Indians thwarted their attempts to repair their watermill, which was their "onely releif for grinding" corn. Running low on supplies, a beleaguered Scottow requested a shipment of food. In their reply to Scottow, the Governor's Council refused to send food, and almost chided him in saying "though yor mill ly at a distance yet a samp morter or two will make a supply to prvent any great sufferings." When Indians attacked Springfield, Massachusetts in 1675 they burned the town's mills, leaving townspeople "discouraged exceedingly" and causing many to flee. Like Scottow, John Pynchon at Springfield described the loss of the mill "a great strait to us." Springfielders also apparently refused to grind corn by hand, since Pynchon reported that flour was "not to be had because the mill is burnt." The horror of seeing a mill put to the torch or the stubborn refusal to grind corn with their own muscle, even when faced with the most desperate of circumstances, challenges the stereotype of

rugged frontiers people.[212] New England colonists clearly became quickly accustomed to the labor-ridding power of mills. New England's Native peoples had mingled peaceably with colonists for nearly thirty years before King Philip's War erupted in 1675. Just as they admired the power in European technology, they must have also noticed their weaknesses, or drawbacks. They likely adjudged mills, despite their benefits, to the latter.[213]

When Indians swept across New England during King Philip's War, mills were rarely spared the torch. John Kingsley reported from Rehoboth, Massachusetts that Narragansetts "burnt our milles, brake the stone, ye, our grinding stones" along with destroying other signs of English presence such as burning "cartes wheles" and "our catel, shipe, horses." Indians returned to Salmon Falls on the Piscataqua River a few weeks after defeating an English force there to burn a mill. The English name for that watercourse hints at why they wanted it removed. In Saco, Maine, Indians tried to draw colonists out of their garrison by burning the town's mills. Once Indians landed their canoes, they walked straight to the sawmill owned by the town's leading man William Phillips, and promptly set it on fire. Finding that the English would not leave their garrison to save such an important building, they next turned to Phillip's gristmill, which they also set ablaze, taunting "you English cowardly dogs, come out and quench the fire." Although colonists within the blockhouse walls survived, deprived of their watermills, they quickly abandoned the settlement. When peace was signed in 1678, each English family in Maine had to pay the Indians a peck of corn as quitrent. Wabanakis required that Phillips, likely in because of

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[212] Carla Cevasco, "Hunger Knowledges and Culture in New England's Borderlands, 1675–1770, *Early American Studies* 16, no. 2 (2018): 255–81.
[213] DHSM 6:99–103, 4:399; *Pynchon Papers*, 1:158–59, 164.

his status and the amount of resources his mills consumed, was required to pay a bushel, or four times more.[214]

Recognizing their importance, colonists militarized mill spaces. Although colonists often fortified certain homes in the event of an attack, mills frequently served as garrison houses. In Northampton, Indians were thwarted in their attempts to burn a mill there "by two files of musketiers lodged there for the purpose." Mills were natural rally points for settlers. First because they were centrally located, as farmers radiated from the nearest energy source for grinding their grain or other tasks. Second, the roads which converged at mills were not only well worn but usually mandated by towns. If millowners were unaware of the target on their back, they learned after King Phillip's War. While attending a Governor's Council meeting in Boston, Samuel Sewall recorded in his diary entry for July 7, 1685 that "Mr. Hutchinson shewed me his Letter concerning his Mill at Piscataqua, wherin is sollicited to build a Fort, lest the Indians burn it." It was Elisha Hutchinson's mill which had been burnt at Salmon Falls in 1675.[215]

Indians continued to target mills during King Williams' and Queen Anne's Wars to protest colonial incursions into their territory. In 1689 Indians killed Major Richard Waldron, the leading citizen of Dover, New Hampshire, and then burnt his saw and gristmill. Mills at Salmon Falls upriver on the Piscataqua were immolated a second time the next year. Following the conclusion of King William's War, frontier towns left picking up the pieces after the devastation complained of being in a pitiable condition, largely because their mills were either destroyed or broken. York, which had been ransacked in 1692, complained that their mill was "wholy

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[214] PRCC 2:446; Hubbard, *Indian Wars*, 225, 216–18; DHSM 6:94; William D. Williamson, *The History of the State of Maine* (Hallowell, Maine: Glazier, Masters, 1832), 552–53.
[215] Hubbard, *Narrative of the Indian Wars*, 95; CMassHS ser. 5, 5:95.

useless" which made it difficult to feed their residents. Wells barely survived the assault which overwhelmed nearby York, and in 1704 reported that they had erected new mills since the ones from before the war were "useless & unprofittable." In 1712, marauding Indians avoided English patrols to burn a sawmill on the Oyster River in New Hampshire. They also burnt a "large quantity of boards." Again in 1723 in Wells, Indians set a sawmill and "fifty thousand of Boards" afire. Had those Indians came upon a mill with sacks of flour or gunpowder, it is much more likely that they would have taken some. Instead, the destruction of the sawmill and, in particular the boards, demonstrates a disdain for pretty much everything about those machines. Since the voices of those Indian attackers are lost to time, we cannot know their intentions. Perhaps they were settling old scores, trying to annoy colonists and make it harder for them to stay in the area, or restore fishing ground the milldams had destroyed.[216]

The Indian voices recorded at the Arrowsic Conference of 1717 give some sense to how they arranged mills in their conception of space. The Wabanaki delegation met with Massachusetts officials in attempt to establish a clear border between themselves and colonists. The quick increase in the number of European settlers troubled them, especially since many were building on lands that Indians were not aware had been sold. Wiwurna, a Wabanaki delegate from the Kennebec tribe, told Massachusetts Governor Samuel Shute "We shan't be able to hold them all in our Bosoms, and to care to Shelter them, if it be like to be bad Weather, and Mischief be Threatned." Wiwurna's use of "hold them all in our Bosoms" had at least two meanings. First, it signaled that colonists living in the Dawnland were dependents, and regardless of legal documents, were guests in Wabanaki land, further elaborating that "what has been Alienated was by our Gift." Second, "bosom" in the eighteenth century also could also refer to "the surface of

[216] Belknap, *History of New-Hampshire*, 1:250, 258, 356; DHSM 9:196, 203, 23:148.

the sea, a lake, a river, or the ground." To say "We shan't be able to hold them all in our Bosoms" meant that the Dawnland's limited resources were being pushed beyond the limit. The "bad Weather" Wiwurna spoke of alluded to moments of scarcity, something northern New England Indians such as himself knew well. Denser population meant less resources to go around. Intrusive European practices whether that be wandering cattle, milldams, or overharvesting of other food sources would bring violence.[217]

To stave off the potential for conflict, the Wabanakis sought to establish a clear boundary line. They informed Shute that they were "willing to cut off our Lands as far as the Mills." Much like a European fence across a landscape, millworks on a river designated European order on a riverscape. Mills were once again requested by Indians as a boundary on the St. George's River during a 1738 meeting between Penobscots and Massachusetts Governor Jonathan Belcher.

> We are easy the English should come to the floating water at the falls. this we are Content with, but not so as to affect the Title of Land, for we can't be content with any Settlements further than the falls. We are willing the Saw mill should remain and the House with a good Family in it and also a House to take care of the Grist Mill when built, and that the ways from the Truck House there should be kept clear, for if that Settlement should be allowed it will draw on Warr and blood-shed.

Below a milldam were European practices: intensive, extractive cultivation and permanent settlement made possible with waterpower. Above, a riverscape absent of mills denoted the open, extensive, flexible method of culling the environment practiced by Wabanakis. Wiwurna asserted "We will be very Obedient to the KING, if we are not Molested in the Improvement of our Lands." His notion of improvement included the passage of fish upstream

[217] CMeHS 1st ser., 3:367–9; "bosom, n. and adj.". OED Online. June 2017. Oxford University Press. http://www.oed.com.proxy.libraries.rutgers.edu/view/Entry/21761?rskey=P4Y5Ci&result=1&isAdvanced=false (accessed Jan. 4, 2018). Thanks to Lisa Brooks for making me aware of this definition.

and the unrestricted ability to chase game. This was diametrically different from the fences and mills which the English considered markers of "improvement."[218]

The peacetime conferences with the Kennebecs and Penobscots demonstrate a Wabanaki attempt to tolerate mills. Their attempts to mark them as boundaries also show an attempt to cap their number to preserve resources "if it be like to be bad Weather." The waterfalls where mills usually sat had been places of congregation long before Europeans arrived to fish or portage. Mill power and trade drew both colonists and Indians to that space. The Penobscot desire to have a saw and grist mill as well as a truck house at the falls of St. George River shows their desire to make the boundary between them and the English a place of meeting. Colonial desire to harvest more land and trees, only possible with the assistance of waterpower, made such a vision untenable in the long term. When war visited the Maine frontier again in 1745, the first Wabanaki attacks in Newcastle and Thomaston destroyed cattle, homes, and sawmills. The Thomaston sawmill near the St. Georges Rivers was likely the same mentioned by the Penobscots in 1738 as a proposed boundary between themselves and the British.[219]

With resources already quite scarce in New England, the transformation watermills wrought on the region's riverscapes revealed intractable differences between colonists and Indians. Saw or grist mills were central to English colonization projects in New England. Culturally, seventeenth and eighteenth-century colonists preferred living in homes of sharp-angled milled wood and were loath to grind grain by hand. Economically, colonists needed to tap the labor potential of New England's abundant waterpower in order to process the region's resources for export. The mills powering grindstones or saws in the seventeenth century enabled

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[218] CMeHS 1st ser., 3:367–9; DHSM 23:238.
[219] David Quimby Cushman, *The History of Ancient Sheepscot and Newcastle* (Bath, Maine, 1882), 128; Cyrus Eaton, *History of Thomaston, Rockland, and South Thomaston, Maine* (Hallowell, Maine, 1865), 55.

the leveling of wide tracts of forest and brought more land under cultivation. Mill power accelerated the habitat destruction of flora and fauna which sustained Indians while processing food for New England's rapidly growing colonial population. Deprived of mills, colonists realized that they would have to live much as Indians did, living in (what appeared to be) crude huts struggling to eke out a subsistence. For the Indians upstream of the churning waterwheels, the loss of fish meant starvation. Unlike other European technologies, Indians did not adopt mills because it seems that these fixed structures that rapaciously consumed forest and grain limited their mobile subsistence strategies and ensnared them in an Atlantic market economy out of touch with their cultural priorities.

The colonial act of channeling river water toward a mill, often the first building in a settlement, was to concentrate river energy into a single space that redirected the surrounding resources along European cultural notions of order. That Indians made a point to destroy mills during conflicts with colonists shows that the act of reopening the flow of a river was to restore Native conceptions of natural order. The flurry of activity around mills indicates the high stakes involved. The tension over the nature of rivers vis-à-vis mills determined the shape of the human societies around them.

PART II: CONTESTED POWER

Wabanakis capitalize on wide reach of rivers to wreak havoc on colonists in fixed settlements.

Chapter 3: Porous Walls: Rivers as Spaces of Wabanaki Power

"Wee find itt very Difficult to Come neire [Indians] there is soe many Rivers & soe much broken land, that they soon Escape by Canoes ye Country being full of them." William Hawthorne, 1676

"I am quite willing to leave thee in this place, on condition that absolutely no more English shall dwell within a league of my River Pegonakki, nor from this bound along the borders of the Sea…nor the mouth of my Rivers, nor in any of the islands, which correspond to my land, which are adjacent where my canoe can go." Abnaki Indians, 1721[220]

Controlling inland waterways was the key to exercising sovereignty in colonial New England. In what can only be understood as a deliberate strategy which was replicated across the northeast, colonial governments incrementally expanded their territory by fortifying river portages and waterfalls. Native Americans also recognized that holding strategic river points was imperative to retaining their political independence, and used the speed advantage of their lightweight birch bark canoes to evade and attack colonists. Both European empires and Indians focused their military strategy on holding rivers because the masters of watery spaces held a stranglehold on mobility and food for miles beyond. Land was of secondary concern. Such awareness among Indians can be witnessed in their fierce opposition to English river forts built within or near their territory which was almost always more unwavering and intense than their

[220] DHSM 6:123; James Phinney Baxter, *The Pioneers of New France in New England* (Albany, N. Y.: Joel Munsell's Sons, 1894), 116.

disagreements over European claims to land. Wabanakis wanted open rivers that not only allowed fish to pass but also gave them a military advantage. They knew colonists' were much slower across American space, whether on land or water. Wabanakis capitalized on the diffuse nature of rivers to stanch colonial incursions or punish Englishmen who violated trade or resource use agreements. Because both Indians and colonists realized controlling access to New England's rivers was the *sine qua non* for sovereignty, the colonial wars which plagued the region for nearly one hundred years were usually waged in view of flowing water.

Historians generally cast the episodic Anglo-Indian violence in colonial New England as a conflict ignited by claims to abstract plots of dirt and fought deep in forests. In these narratives, like most conventional stories of colonial expansion in early America, distrust foments between Indians and Europeans over land.[221] Marking land as the issue of contention seems so obvious that it hardly bares worth mentioning. After all, colonists craved land for farmsteads equally as much as Native Americans required land for hunting and foraging. However, closely examining the moments of discord on New England's eastern and western frontiers reveals that rivers triggered confrontation more than disputes concerning claims to land.

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[221] "As the area of occupied soil grew larger, the size of the Indians' hunting-grounds diminished, and therein lay perhaps the most potent cause of the conflict." Lois Kimball Mathews, *The Expansion of Colonial New England* (Boston: Houghton Mifflin, 1909), 48–49; Richard Slotkin, *Regeneration Through Violence: The Mythology of the American Frontier, 1600–1800* (Norman: University of Oklahoma Press, 1973), 17–8; "Anglo-Indian competition stretched the productive capacities of the land to the maximum and introduced inevitable conflict." Colin G. Calloway, *The Western Abenakis of Vermont, 1600–1800* (Norman, University of Oklahoma Press, 1990), 53; Charles E. Clark, *The Eastern Frontier: The Settlement of Northern New England, 1610–1763* (New York: Knopf, 1970); "The settlers wanted furs and land. Little else concerned them." Kenneth M. Morrison, *The Embattled Northeast: The Elusive Ideal of Alliance in Abenaki-Euramerican Relations* (Berkeley: University of California Press, 1984), 102; Douglas Edward Leach, *The Northern Colonial Frontier, 1607–1763* (New York: Hold, Rinehart, 1966); ; Saliha Belmessous, "Wabanaki versus French and English Claims in Northeastern North America, c. 1715" in ed. Saliha Belmessous, *Native Claims: Indigenous Law Against Empire, 1500–1920* (Oxford: Oxford University Press, 2012), 107–28. Eighteenth-century historian Jeremy Belknap recognized river disputes as a central cause of war. "At first, the Indians did not know that the European manner of cultivating lands, and erecting mills and dams, would drive away the game and fish, and thereby deprive them of the means of subsistence." Jeremy Belknap, *The History of New-Hampshire* (Boston: Bradford and Read, 1813), 2:38.

Regardless what was etched on hoary European parchment, colonizers first had to control access to inland waterways to assert dominion across space. Fundamentally energy was at stake. Rivers were the highways of the pre-industrial era: canoe or other vessel was almost always preferable to traipsing overland since harnessing moving waters decreased both physical exertion and the duration of a journey. Crucial protein calories could be extracted from spawning fish runs and was an essential part of English and Indian diets. Access to a river made the difference between ease and discomfort, sometimes even life or death in the unforgiving northern climes of New England. One could own land on a map, but if it was far from coastal or riverine waterways, the lack of transportation or food sources made occupying that land a meaningless endeavor.

Waterfalls were the choke points for these two forms of energy extraction. Rocks obstructing a river's path forced writhing fish to surface in their desperate quest to reach spawning grounds, leaving them vulnerable to spears and well-placed nets. The sudden drop of a waterfall or a minefield of hull-crunching boulders hidden under rapids similarly left human river travelers exposed to harm. The roaring impasse forced voyagers to abandon the safety of open water to trundle their vessels through the nearby thickets. Even overland trails converged near rapids since the shallow waters were ideal fording places. The masters of these frothing water sites dictated both who could fish from and travel on these rivers. During times of war, access to this river energy in the form of food and mobility was imperative to military success.

Poet Robert Coffin described colonial Maine as "a history of houses standing in flames and feet running desperately through the night."[222] With few exceptions, warfare defined life in

[222] Robert P. Tristram Coffin, *Kennebec: Cradle of Americans*, (New York: Farrar & Rinehart, 1937), 54.

the "Eastern Country" from 1675 to 1759. The Eastern Country, or the "Eastward," was the English name for the lands north of the Merrimack River, which today encompass the states of New Hampshire, Maine, and the northeastern tip of Massachusetts. It was a land strewn with desolated English settlements and bloated corpses of European and Native American hues. Such a dreary image stands in stark contrast to the more common perception of colonial New England as a prosperous, pious, demographically fertile part of the world where people mostly concerned themselves with apostasy and witchcraft. Although Indian conflicts touched the southeastern New England colonies of Massachusetts, Rhode Island, and Connecticut, they were short and decisive. Both the Pequot War (1635–36) in Connecticut and later King Philip's War (1675–76) in Massachusetts and Rhode Island lasted only fourteen months. At the conclusion of King Philip's War in 1676, Native peoples south of the Merrimack River were totally defeated. In contrast, the events which climaxed in a few months during King Philip's War was drawn out for an additional fifty years of terror and bloodshed in what is now New Hampshire and Maine.[223]

Despite repeated setbacks and clear hazards, migrants continued to flock from Massachusetts to the Eastward. The proximity of cheap land to the metastasizing population concentrated in Boston sustained this ongoing pressure on New England's borders.[224] As a strategy to expand their territory, the English vented their burgeoning population on their eastern

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[223] Patrick M. Malone, *Skulking Way of War: Technology and Tactics among the New England Indians* (Lanham, Md.: Madison Books, 1991); Wendell S. Hadlock, "War among the Northeastern Woodland Indians," *American Anthropologist* 49, no. 2 (1947): 204–21; Adam J. Hirsch, "The Collision of Military Cultures in Seventeenth-Century New England," *Journal of American History* 74, no. 4 (1988): 1187–1212; Christopher John Bilodeau, "The Economy of War: Violence, Religion, and the Wabanaki Indians in the Maine Borderlands" (PhD diss., Cornell University, 2006); Andrew Miller, "Abenakis and Colonists in Northern New England, 1675–1725" (PhD diss., Johns Hopkins University, 2004); Alice N. Nash, "The Abiding Frontier: Family, Gender and Religion in Wabanaki History, 1600–1763" (PhD diss., Columbia University, 1997); L. F. S. Upton, *Micmacs and Colonists: Indian-White Relations in the Maritimes* (Vancouver: University of British Columbia Press, 1979).

[224] Terry L. Anderson and Robert P. Thomas, "White Population, Labor Force and Extensive Growth of the New England Economy in the Seventeenth Century," *Journal of Economic History* 33, no. 3 (Sept. 1973): 634–67; Philip J. Greven, *Four Generations: Population, Land, and Family in Colonial Andover, Massachusetts* (Ithaca, N. Y.: Cornell University Press, 1970).

frontier. However, unlike the Native groups of southern New England, the Wabanakis successfully beat the New England colonizers back. In 1675, 1689, and 1703 the English saw their hard-fought gains in the region reduced to ashes by Wabanakis. New England's eastern frontier was a source of recurring anxiety for Massachusetts officials who claimed that territory for themselves against Wabanaki and French counterclaims.[225] Curiously, the brutal struggles along this borderland receive short shrift in larger studies of New England.[226] The region was hardly an afterthought at the time, with Massachusetts annually sinking money, soldiers, and resources in repeated attempts to quell their eastern frontier.

Controlling rivers was the key to exercising sovereignty on New England's eastern limits. Until 1724, the English failed to score a decisive military victory against the Wabanakis. Even when the English would temporarily overwhelm Indian resistance by marching large armies north, Indians would flee toward the interior, patiently wait for those forces to leave, then ransack the offending English settlements across a wide front. Cotton Mather described the Wabanaki enemy as "Ever-approaching and Unapproachable." Massachusetts governors beginning with Edmund Andros realized that successfully colonizing their troublesome eastern provinces hinged on depriving the Wabanakis access to the food and mobility which fueled their effective style of warfare. Rivers were the ideal place to accomplish that aim. Wabanakis fortified important river locations because they also recognized the importance of mastering access to rivers. An escaped English captive during King Philip's War recounted in 1676 that

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[225] For a sense of the interests leading Massachusetts men had in land speculation in Maine, see Emerson W. Baker and James Kences, "Maine, Indian Land, and the Essex Witchcrafts Outbreak of 1692," *Maine History* 40, no. 3 (2001), 159–89.

[226] Emerson Baker and John Reid argue that Northern New England "offers the historian a wider arena in which the experiences of southern New England and the other areas of dense colonial settlement were peripheral rather than central. Northern New England was geographically central and historically crucial." Emerson W. Baker and John G. Reid, "Amerindian Power in the Early Modern Northeast: A Reappraisal," *William and Mary Quarterly* 61, no. 1 (2004), 84; Alan Taylor, "Centers and Peripheries: Locating Maine's History," *Maine History* 39, no. 1 (2000): 11–14.

when "the warme wether doth set" his Wabanakis captors went "awa[y] to taconet [falls on Kennebec River], and ther to bild 2 fortes for ther is ther fishing places, and planting grownd." In various treaties, Wabanaki leaders consented to the establishment of trading houses and certain English settlements, but were consistent in demanding traditional access to river spaces to hunt, fish, or travel.[227] Military victories were a temporary illusion. Real, permanent control depended on controlling rivers, the region's primary energy source. The English were repulsed from the Eastern Country for nearly thirty years because their strategy aimed to hold land and defeat Wabanaki armies. Although frequently outnumbered, Wabanaki mastery of waterpower gave them a military advantage.

Much of the chaos in the Eastern Country originated in the diplomatic morass of conflicting European and Native American land claims. The French held the Kennebec River as the western boundary of their province of Acadia. However, in 1664 Charles II of England granted a patent from the Kennebec River east to the St. Croix River to his brother the Duke of York. The 1667 Treaty of Breda split these conflicting claims down the middle at the Penobscot River. The lack of significant European settlement in the region and ensuing wars between France and England made this Penobscot boundary hardly final. The French ceded official claim to the Eastern Country when they surrendered much of what is now New Brunswick and Nova Scotia to the British in the 1713 Treaty of Utrecht. Between the abstract lines drawn by colonial architects in Europe, the Wabanakis who actually inhabited the territory (which they called the "Dawnland") considered themselves to be politically independent. Through the early eighteenth century, Wabanakis would politely listen to shaky European assertions of sovereignty and

[227] Cotton Mather, "Decennium Luctuosum: An History of Remarkable Occurances in the Long War, Which New-England hath had with the Indian Salvages, from the Year 1688. to the Year 1698. Faithfully Composed and Improved" in *Magna Christi Americana* (London: Thomas Parkhurst, 1702), 76; DHSM 6:150.

ownership of their land, but in essence ignore them since they knew that their own power on the ground spoke louder than any written document. Adding to the confusion, even English proprietary claims to this fraught region conflicted with each other. Such was the shaky state of affairs in the Eastern Country that these proprietors avoided legal quarrels lest their entire claim be ruled invalid in court. These uncertainties endured beyond the colonial period. The border between New Brunswick, Quebec and Maine would not be conclusively settled until the 1842 Webster-Ashburton Treaty.[228]

The first European settlers to northern New England were "few, scattered, and almost defenceless."[229] European fishermen camped along northeastern North America's coasts since the dawn of the seventeenth century, but only seasonally. Attracted to the wealth to be hooked and netted offshore, these early visitors generally kept their distance from Native peoples. The first permanent English settlements north of the Piscataqua River began popping up in the 1620s. Unlike their community-oriented, faith-driven countrymen to the south in Plymouth, New Haven, and Boston, these colonists were strictly interested in chasing profits in fishing, furs, and lumber. Massachusetts divine Cotton Mather disdainfully characterized his eastern neighbors as "Rude, Wild" and "Ungovernable." In a captivity narrative recorded by Mather, Hannah Swarton attributed her misfortunes at the hands of Indians to leaving the "Publick Worship and Ordinances of God" in Beverly, Massachusetts for the Maine frontier, "where there was no

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[228] Morrison, *Embattled Northeast*, 119–20; Colin G. Calloway, *Dawnland Encounters: Indians and Europeans in Northern New England* (Lebanon, N. H.: University Press of New England, 1991), 14–18; Alan Taylor, *Liberty Men and the Great Proprietors: The Revolutionary Settlement on the Maine Frontier* (Chapel Hill: University of North Carolina Press, 1990), 12–3; Jeffers Lennox, *Homelands and Empires: Indigenous Spaces, Imperial Fictions, and Competition for Territory in Northeastern North America* (Toronto: University of Toronto Press, 2017).
[229] Timothy Dwight, *Travels in New-England and New-York* (New Haven, Conn., 1821), 2:235.

Church or Minister of the Gospel…thereby exposing our Children, to be bred Ignorantly like Indians."[230] Accounts from northern New England suggest that the English and Wabanaki lived peaceably among one another before 1675. The region's Native population was still recovering from calamitous epidemics in the first half of the seventeenth century, possibly making it easier for them to share space and resources with their new neighbors. Nearby Wabanakis welcomed the new economic and political opportunities brought by proximity to English in the form of access to European goods and alliances against other Indians. The embryonic state of these colonial ventures, their overriding focus on profit, and friendly relations with local Indians produced a sleepy absent-mindedness when contemplating military defense.[231]

First Wabanaki War, 1675–1678

When the bloodletting of King Philip's War hurtled toward the eastern fringes of English settlement in the summer of 1675, colonists there found themselves unprepared and woefully outnumbered. Upon hearing news of the opening Wampanoag attack against the Massachusetts Bay Colony in June, anxious colonists in York, Maine decided to take preemptive measures. They sailed east to the Kennebec River and demanded that their unwitting Wabanaki neighbors surrender their firearms as a guarantee of loyalty. Besides being a serious affront to their sovereignty, Wabanakis complained that confiscating their guns would deprive them of their

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[230] Cotton Mather, "Ecclesiarum Prælia" in *Magna Christi Americana*, 55; Cotton Mather, "Remarkables of the Divine Providence among the People of New England" in *Magna Christi Americana*, 11.
[231] Edwin A. Churchill, "Mid-Seventeenth Century Maine: A World on the Edge" in Emerson W. Baker, Edwin A. Churchill, Richard S. D'Abate, Kristine L. Jones, Victor A. Konrad, and Harald E.L. Prins, eds. *American Beginnings: Exploration, Culture, and Cartography in the Land of Norumbega* (Lincoln: University of Nebraska Press, 1995), 242–45.

means of acquiring food—this forced them to choose between starvation and resisting the English to keep their firearms. They would choose the latter.[232]

What followed, in an event downplayed by both contemporary chroniclers and professional historians, was a near total Wabanaki military victory which destroyed all English presence north of the Saco River.[233] Wabanaki strategy employed river routes and their light birchen canoes to suddenly and without warning strike across wide swathes of territory. The first attack in September 1675 hit Thomas Purchas' trading house on the Androscoggin River. English settlements to the west on the Saco River were next. Later that month Indians surprised colonists farther south "towards Piscataqua, doing all the spoil upon the inhabitants of the several branches of that river." Attacks subsided as a bitter winter set in—the Indians lost their mobility advantage when the rivers became locked in ice. Massachusetts attempted to send relief north and strike at the Indian "headquarters" on the Saco River at Ossipee and Pequawket but it "was not possible to have marched a day's journey into the woods without hazarding all their lives."[234]

Following York's bullheaded tact from earlier that June, a messenger communicated in September 1675 to Wabanakis at their fortified village on the Kennebec River's Ticonic Falls that they should disarm or suffer the penalty of death (a misinterpretation of the orders given to him by his commander). This misadventure would prove costly. One year later Ticonic's Wabanaki warriors responded to these demands by attacking settlers along the Kennebec from

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[232] William Hubbard, *A Narrative of the Indian Wars in New-England* (1677, repr. Boston: John Boyle, 1775), 211; "seeing these Indianes in these parts did never Apeare dissatisfied untill their Armes wear Taken Away I doubt of such Acctions whether thay may not be forced to go to the french for Releife or fight Against us having nothing for their suport Almost in these parts but their guns" Thos Gardner to Gov Leverett, Sept. 22, 1675, DHSM 6:91–92.
[233] The Eastern Country is dismissed as irrelevant and unimportant in the two major surveys of the conflict. James D. Drake, *King Philip's War: Civil War in New England, 1675–1676* (Amherst: University of Massachusetts Press, 1999). 162–63; Jill Lepore, *The Name of War: King Phillip's War and the Origins of American Identity* (New York: Vintage, 1999), 177.
[234] Hubbard, *Indian Wars*, 129, 228; a recent exception is Lisa Brooks, *Our Beloved Kin: A New History of King Philip's War* (New Haven, Conn.: Yale University Press, 2018).

their canoes, ultimately sacking the major English settlement at Arrowsic Island. All the colonists could do in response was retreat to garrison houses, if they were lucky, and watch their homes burn. Unable to stop or tolerate repeated Indian raids, settlers fled following the destruction of Arrowsic. Two months later commander Richard Waldron grimly described the scene north of the Saco River as "ye deserted and conquered Eastern Country."[235]

Choosing to emphasize the English triumph in southern New England, Cotton Mather pithily attributed this embarrassing English defeat to his eastern neighbors becoming "too like the Indians" and their "Unchristian way of Living."[236] Looking at the nature of Native attacks, it is more likely that the English were dislodged from the region because of their bellicose diplomacy and their communities lacking much in the way of defensive strategy.[237] Roads were narrow Indian trials which twisted and wobbled across the Eastern Country's relentless terrain.[238] Wabanaki canoe attacks made it clear that they controlled the region's rivers. Limiting besieged colonists to the use of these shoddy roads made it easy for hostile Indians to sever communication lines, allowing them to ambush vulnerable settlers along much quicker river routes.

Despite crushing defeats, English victories to the south against the Wampanoag and Narragansett Indians in Massachusetts and Rhode Island gave the New Englanders an unwarranted air of superiority in peace negotiations with the Wabanakis. During one such meeting in 1677, Wabanaki Sagamores responded to the English delegates' domineering attitude

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[235] Hubbard, *Indian Wars*, 239, 246, 249; Richard Waldron to John Leverett, Oct. 15, 1676, MA 69:84.
[236] Mather, "Ecclesiarum Prælia," 55.
[237] Christopher J. Bilodeau, "Creating an Indian Enemy in the Borderlands: King Philip's War in Maine, 1675–1678," *Maine History* 47, no. 1 (2013): 11–41.
[238] On the role of horses in successful military operations during King Philip's War, see Grandjean, *American Passage*, 162–64.

by reminding them that their Dawnland was "wide and full of engons & we can drive you out."[239]

The northern theater of King Philip's War was such a resounding Wabanaki military victory largely because they could freely move about the country, while the English could not. Native war parties gathered at fortified villages located on the falls of major rivers, the geographic nexus for land and water transportation routes. Once assembled, they swiftly floated downriver in canoes and surprised English trading houses and communities. Landbound English settlers lacking canoes would be trapped by "divers unfordable Rivers in time of Danger Not pasable."[240] If the English could regroup for a counterattack, the Indians had usually paddled far into the densely wooded recesses of the interior. Without sufficient rations or knowledge of the land to carry out a campaign, English soldiers found themselves in a hapless situation.

The peace treaty signed in 1678 acknowledged the English defeat. The terms of peace allowed the English to return to their former settlements so long as they recognized Indian ownership of the land by each colonial family paying local Indians a peck of corn as an annual quitrent. English observers considered the treaty "not very Honourable," but they had little choice.[241] Unlike their celebrated triumph over King Philip (Metacom) and his allies in southern New England, the English were the clear losers in the north.

Second Wabanaki War, 1688–1699

[239] Moxes and Indians W. H. and G. red by Mrs Hamond, July 1, 1677, DHSM 6:177–78;
[240] Petition of Joshua Scottow, Mar. 28, 1689, DHSM 6:470.
[241] There is no surviving copy of 1678 Treaty of Casco, only summary in Jeremy Belknap, *The History of New-Hampshire* (Philadelphia: Robert Aitken, 1784), 1:158–59; *Proceedings of the Massachusetts Historical Society* 13, (1873 –73):341; Mather, "Decennium Luctuosum," 60.

The peace was not to be lasting. English settlers moved back to the region and optimistically resumed the life of mixing with Indians as before the war. Farms sprung up, while colonists once again found profits in the export of timber and fish. Wabanakis sought to be neighbors with the English, living close by and inviting them to rebuild trading posts along familiar river trading routes. However, as more English moved to the area old wounds reopened. The English did not comply with the 1678 agreement which limited their settlements to only that which they held before the outbreak of war in 1675. When listing their reasons for resuming hostilities in 1688, the Indians complained of their English neighbors' ravenous consumption of nearby resources. Wabanakis likely sought to strictly circumscribe English settlement in 1678 because they realized that their seasonal economy of culling resources extensively from the land clashed with the English style of permanent, intensive land use. On the Saco River, the English selfishly blocked the passage of fish for themselves with nets, depriving upstream Indians of a food source which they "reserved Entire unto themselves." Colonists also failed to follow through on promises to quarantine their cattle behind fences or on islands, allowing their cows and pigs to ravage Indian cornfields in their wanderings. English settlers refused to pay the yearly tribute of corn owed to the Indians and even worse surveyed lands which they had no pretense to own. These actions fell far short of acknowledging Wabanaki ownership of the land or resources confirmed in the 1678 peace. Violations were so rampant that the English and Wabanaki sat down again in 1685 to reaffirm the 1678 agreement. Yet colonists continued to flout restrictions after that meeting. Exasperated Indians responded to these transgressions by killing cattle and barging into homes threatening to "knoke the people on the head."[242]

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[242] Mather, "Decennium Luctuosum," 61; Declaration of Silvanus Davis, DHSM 5:142; Later episodes with the Wabanaki better articulate this fundamental problem: "Fish is their principal Subsistence in the Sum̃er Time and that for want of which they are like to be Sarved &c. wch is thot to be the Reason that they have troubled you." Letter to

In 1687 rumors swirled in Boston that hundreds, perhaps thousands of Mohawks and Wabanakis were massing at the Merrimack River's Penacook Falls with nothing less than the ruination of New England their aim. Whisperings, hushed conversations, and the testimony of unaccountable Indians concurred that this imminent invasion had been hatched by Catholic conspirators, including but not limited to the French, their own King James, and by extension the royally appointed governor of New England, Edmund Andros.[243] This rumor of a popish invasion never materialized. Still, New England colonists read the recent belligerence of local Wabanakis as part of this larger conspiracy emanating from their distant French imperial adversaries or even Rome. The colonial English imagination could not conceive that local English provocations had inspired local attacks. Such a myopic cultural assumption on the part of colonists evinces a dismissive attitude toward their Indian neighbors which at least partially explains their intransigence in the face of Indian complaints. Recent immigrants to the Eastern Country may have confused the Wabanakis for the defeated Wampanoag and Narragansett people they saw in southern New England. They would be in for an unpleasant surprise.[244]

Events came to a head in August 1688 when Benjamin Blackman unilaterally kidnapped twenty Saco Indians in response to the killing of cattle. Many of the hostages Blackman seized were elderly, women, or children, and clearly not the guilty party. Regardless, colonists sent the

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Col. Tho Westbrook, Sept. 7, 1736, DHSM 11:173. "all the uneasiness of the Indians arises from two things, the settling of the English and their hunting; which indeed are but one cause, as they fear the one only because it is productive of the other. And indeed they have great reason to be alarmed at the extension of English hunting; their very existence depends upon its not being permitted. And it is with great justice they complain how hard it is that the English who have many ways of living will interfere with the Indians in the only business by which they subsist." Governor Francis Bernard to the Council and House of Representatives, June 5, 1764, MHJ 41:31.

[243] *The Revolution in New England Justified* (Boston: Joseph Brunning, 1691), 25–26; Increase Mather, "A Vindication of New England" in *The Andros Tracts* (Boston: The Prince Society, 1869), 2:52.

[244] Bourque, *Twelve Thousand Years*, 159. Such suspicions were not entirely unfounded, as the French had recently placed missions on the St John's, Penobscot, and Kennebec Rivers; Morrison, *Embattled Northeast*, 106; "…colonial rumors about Indian attacks and slave uprisings shout loudly about something far more important to the colonists: imperial wars." Gregory Evans Dowd, *Groundless: Rumors, Legends, and Hoaxes on the Early American Frontier* (Baltimore: Johns Hopkins University Press, 2015), 156.

Sacos to Boston "that they might be hostages of our pease" in a war which had not yet started.[245] Outraged Wabanakis responded by kidnapping English settlers, promising to redeem them once their fellow Sacos were returned.[246] In this extremely delicate diplomatic environment, Wabanakis quickly sought a détente. They approached an English garrison in September near North Yarmouth "to make satisfaction for any hurt or spoil done by them." Commander Walter Gendall responded to this request for a parlay by opening fire not only on the Wabanakis, but also their English captive who facilitated the meeting. With their patience worn thin, Wabanakis fell upon North Yarmouth, killing Gendall.[247] Outlying towns in Arrowsic, Sheepscot, and Kennebunk were also attacked before winter. Settlers in these villages once again found themselves outnumbered and isolated.[248] Just as in 1675, the reckless actions of local English settlers needlessly escalated tensions to open blows.

When Governor Edmund Andros heard of the disturbances on the eastern frontier he abandoned an important meeting with the Iroquois Confederacy in Albany and rushed to Boston.[249] At head of the newly-created Dominion of New England (a consolidation of the colonies of New Jersey, New York, Connecticut, Rhode Island, Massachusetts, New Hampshire, and Maine), Andros had been tasked to oversee an immense amount of English territory which took weeks to traverse. Prior to becoming the Dominion's Governor, Andros served as the Governor of New York from 1674 to 1683. During these years Andros played a crucial role in

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[245] Edward Tyng to Edmund Andros, October 1, 1688, DHSM 6:436; DHSM 5:142; The Sacos were a band of Eastern Wabanaki, likely Pequawkets, although this is disputed. Gordon M. Day, "The Identity of the Sokokis," *Ethnohistory* 12, no. 3 (1965): 237–49.
[246] Deposition of Elihu Gunnison, Sept. 4, 1688, DHSM 6:421.
[247] C.D., New England's Faction Discovered in *Narratives of the Insurrections, 1675–1690*, ed. Charles M. Andrews. (New York: Charles Scribner's Sons, 1915), 256; Examination of Henry Smith, Chyrurgion, October 31, 1688, DHSM 6:445; James Sullivan, *History of the District of Maine* (Boston: I. Thomas and E. T. Andrews, 1795), 186.
[248] Mather, "Decennium Luctuosum," 63.
[249] NYCD 3:557–61.

securing the Covenant Chain, an alliance which put the powerful Iroquois Confederacy within English orbit. In 1675 he later orchestrated Iroquois assistance in suppressing simultaneous rebellions against English rule in Virginia and Massachusetts. When Andros arrived in Boston and learned of the bumbling English provocations in the Eastern Country, he "fell into a great rage."[250] Fortunately for Massachusetts, the colony could not have asked for a more experienced or able Indian diplomat to remedy the situation.

Andros wisely recognized that English settlement in the Eastern Country was still on a precarious footing and unable to withstand another Indian war. Seeking to placate the Wabanakis before the diplomatic winds turned more violent, he summarily released the twenty Saco hostages. That no English hostages were exchanged in return sparked indignation among the people of Massachusetts. Many of Andros' political enemies interpreted his actions as confirmation of the well-bruited papist conspiracy whereby King James II (and by extension Andros), the French, Indians, and quite possibly even a third column of Irish sought to destroy New England.[251]

The Massachusetts Council agreed that the best way to immediately reassert order on the eastern frontier was to overpower Wabanaki opposition with a dramatic show of force. However, wary that the current crisis had been manufactured by the aforementioned papist plot, no Massachusetts-born military figure wanted to assume command, leaving Governor Andros to lead the expedition himself. When Andros marched north with seven hundred men in early November he sought a permanent solution to the perpetual chaos on New England's eastern

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[250] *The Revolution in New England Justified*, 30.

[251] Several conspiracy theories circulated in Boston during 1688: "An Indian who came in to Sudbury, affirmed to the people there, that the Indians understood, from the governor, that the French and Irish would take possession of Boston." Hutchinson, *History of the Colony of Massachuset's Bay*, 1:370. "a Maqua's PLOT, A Plot to BURN the TOWNE of BOSTON and to MASSACRE the PEOPLE." *Andros Tracts*, 2:103; DHSM 4:446–49.

frontier. Defeating Wabanaki opposition was first. Anticipating that Wabanakis would use their knowledge of the terrain to avoid direct confrontation, Andros focused on limiting Indians' mobility and depriving them of resources. The winter came late in the final months of 1688, leaving the rivers clear of ice. This allowed Andros to pursue Wabanakis upriver "when and where he intended." Soldiers destroyed thirty Indian canoes making it harder for them to slip away along quicker water routes. As winter set in, Andros' army marched 120 miles through "deep snow" targeting "their forts and settlem'ts, corne, provision, ammunicion and canoes" reducing recalcitrant Wabanakis "to the use of their bows and arrows that they could not much longer hold out".[252]

Andros was well aware that causing marauding Indians to flee before them was an illusory victory. Wabanakis could retreat far into the interior or find refuge in New France. Once the English army left, or was garrisoned elsewhere, Indians could once again strike at will, inflicting destruction and terror on settlements which they interpreted as violating treaty agreements. In the Eastern Country, or the Dawnland, it was the Wabanakis who were enforcing their law. The fundamental problem for colonists on the eastern frontier was that they could not control, or as they often put it, "bridle" their Wabanaki neighbors as they wished.

The source of this problem was English blindness: they could not see what Indians did beyond the purview of their settlements which clung narrowly along the coastline and lower river valleys. The last term of the 1685 treaty evinces English insecurity, as it forbade Wabanakis to "remove from any of the English plantations with their wives and children before they have given fair and timely notice thereof unto the English."[253] Native American seasonal migration was quite normal, especially in northern New England, but it troubled colonists who clearly no

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[252] *Andros Tracts*, 3:231–32.
[253] Belknap, *History of New-Hampshire* (Boston, 1792), 1:xcviii–xcix.

longer trusted their Indian neighbors. English demands were also slightly ridiculous since the 1678 peace treaty acknowledged the Wabanakis as politically independent and owners of the land the English occupied. Colonists' fears originated in the fact that they had no idea what transpired beyond their immediate view. In the confusion following the initial kidnapping of the Saco Indians, Colonel Edward Tyng failed to allay the concerns of local Indians after they fled in fear up the Androscoggin River because Tyng could not travel up that river himself "for want of an Experienced guide."[254] That the English trembled going up a river—a far easier and direct path than an Indian trail—evinces the pathetic state of their intelligence beyond the safety of their garrison walls or fences. This dependence on Indian guides to navigate the interior can also be witnessed in the account of Sylvanus Davis, who resisted Andros' order to release one of the Saco hostages so it could "be a Guide into the Woods for our English, to find out the Haunts of Heathen Enemies."[255]

Andros must have known in December 1688 that his gains would be short-lived unless he adopted a new strategy for securing the region. His ingenious solution was to push irksome Indian mobility into a vise by fortifying waterways. Controlling strategic river points deprived the Wabanakis of two forms of energy crucial for carrying on their style of warfare: mobility and food. Previously English fortifications were of a defensive nature—crude garrison houses, or refuge spots built for beleaguered colonists fleeing oncoming Indian attacks. Six of the eleven forts constructed in the Eastern Country during the winter of 1688/9 were tactically *offensive* in that they held key river portage points or waterfalls, and did not explicitly defend an English settlement.[256] When Andros "blockaded all the Rivers," his hope was that "the Indians might be

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[254] Edward Tyng to Edmund Andros, Aug. 18, 1688, DHSM 6:419.
[255] The declaration of Sylvanus Davis, CMassHS 3rd ser., 1:103.
[256] Andros placed forts on the Merrimack, Kennebec, Damariscotta Rivers.

kept from their usual Retreats, both for Planting, and for fishing, and lye open also to perpetual Incursions from the English in the fittest Seasons thereof."[257] Hostile Indians could no longer use their favored river routes to attack and elude the English without passing English eyes and muskets. River portage points and waterfalls were areas of heavy traffic for Indians on the hunt or fishing. Henceforth, the pursuit of these activities necessary for their survival hinged on the approbation of the onlooking English. Without conquering land, and simply by holding what they called "several Convenient Places" on rivers, Andros circumscribed Indian mobility, deprived them of food, and virtually expanded English sightlines far beyond settlers' farmhouses. Within a single month this tactic "Soe secured the Countrey, that...not the least loss, damage or spoyle hapned to the inhabitants or fishery, and the Indians were ready to submitt at mercy."[258]

Importantly, seven of Andros' forts lay along the Kennebec and Damariscotta rivers. The Kennebec was the most important river in the Eastern Country because it was the disputed border between New England and the French colony of Acadia (the English maintained the boundary was further east on the St. Croix) and the primary invasion corridor from Quebec City.[259] Two forts and a redoubt lay just to the east of the Kennebec on the Damariscotta River. The garrison at Newcastle protected the settlers there, while a redoubt was placed "on the pass at Damarslothe river." Fort Pemaquid was by far the strongest fort in the region and sat at the entrance of the Damariscotta River. In Wabanaki, Damariscotta means "a place of abundance of alewives." Besides trying to deprive local Indians of access to a valuable food source, these forts

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[257] "A Particular Account of the Late Revolution, 1689," in *Narratives of the Insurrections*, 98; Mather, "Decennium Luctuosum," 63–64.
[258] Mather, "Decennium Luctuosum," 64; *Andros Tracts*, 3:22.
[259] The quickest overland route from New England to Quebec City was up the Kennebec to the Chaudière River via a portage of nearly forty miles. Barry Rodrigue and Alaric Faulkner, *Canada Road Survey* (Augusta: Maine Historic Preservation Commission, 1995).

were more important for their symbolism because they stood just within the French claim. English imperial officials invested resources on these symbolic outposts in the distant Eastern Country because they understood the future importance the region would have for the English Empire in masts to propel the Royal Navy, in fish to feed enslaved laborers on their lucrative Caribbean plantations, and perhaps one day in housing English settlers.[260]

Edmund Andros' fortunes turned with the weather. The unseasonably warm temperatures that the colonial forces enjoyed in November quickly shifted into one of the region's notoriously bitter winters. And it was historically bad.[261] The New English army "underwent no little Hardship thus in the depth of Winter…in all the Bleak Winds and Thick Snows of that Northern Country." Early gains made against the Indians were partly a consequence of the harsh conditions, as the winter "frighted the Salvages into their Inaccessible Dens."[262] The weather took its toll. Back in Massachusetts, a "great cry among the people" emerged upon hearing reports of "Sick and week Souldiers to the Eastward."[263] These setbacks, in addition to the murky circumstances surrounding the expedition made many New Englanders suspicious. The several mishaps which inaugurated the conflict in Saco and North Yarmouth were hard to square away in the heads of ordinary Massachusetts folk, and many openly speculated that Andros contrived the entire expedition to further the supposed papist plot to destroy Boston.[264] Nathaniel

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[260] Edward Randolph to Lords of Trade and Plantations, Sept. 5, 1689, CSP 13:140; Eckstorm, *Indian Place Names*, 106–07.
[261] Thomas Wickman, "'Winters Embittered with Hardships': Severe Cold, Wabanaki Power, and English Adjustments," *William and Mary Quarterly* 72, no. 1 (2015): 57–98; Winters in the late seventeenth century were cooler than other periods, and part of "Little Ice Age." Geoffrey Parker, *Global Crisis: War, Climate Change & Catastrophe in the Seventeenth Century* (New Haven, Conn.: Yale University Press, 2013), 453.
[262] Mather, "Decennium Luctuosum," 64.
[263] D. Davison to Edmund Andros, Apr. 1689, DHSM 6:472.
[264] "we are again Briar'd in the Perplexities of another Indian War, how, or why, is a mystery too deep for us to unfold." "The Declaration of the Gentlemen, Merchants and Inhabitants of Boston, and the Country Adjacent," Apr. 18, 1689 in *Narratives of the Insurrections*, 180–81.

Byfield echoed the rapidly diminishing patience among the people, noting that for all the English sacrifices "not one Indian killed all the while." The soldiers failed to comprehend their Governor's river strategy, which fed their conspiracy suspicions considering there was "no plantation in many miles" of Andros' forts.[265] Despite successfully chasing off Wabanakis, destroying their supplies, and fortifying the frontier, morale sagged among the English army during the dark, solitary winter months in the Eastern Country.

Just then "surprizing news" began arriving from across the ocean. Rumors seeped in from Virginia and the West Indies of invasion and revolution back in England.[266] Massachusetts leaders welcomed this startling development since their charter protecting relative autonomy had been annulled under King Charles II in 1684 and . If his successor James II indeed were usurped, it threw into question the legitimacy of his royally appointed governor, Edmund Andros. The people of Massachusetts were especially keen to this latter prospect. Andros had been appointed by a Catholic sovereign and was a defender of high church Anglicans in the colony. This did not sit well with the arch-Calvinist New Englanders whose parents fled old England to rid themselves of the influence of those very institutions. New Englanders were also accustomed to running their own affairs, making Andros' imperious, condescending personal style especially grating. He was disliked, suspected, and now rumors of King James' overthrow made him politically vulnerable. Having just extinguished one fire in the Province of Maine, Andros rushed to Boston in March to put out another. Soon after his departure, disgruntled soldiers stationed at forts on the Saco River mutinied and began marching back home.[267] On April 18, 1689

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[265] "An Answer to Sr Edmund Andross' Account," in *Andros Tracts* 3:36. Settlements had been much closer to the forts. They had fled after the first Indian attacks in the fall of 1688.
[266] Increase Mather, "A Vindication of New England," in *Andros Tracts* 2:52.
[267] Warrant for Assistance to Capt. Jno Floyd, Apr. 12, 1689, DHSM 6:473–74: Mary Lou Lustig, *Imperial Executive in America: Sir Edmund Andros, 1637–1714* (Madison, N. J.: Fairleigh Dickinson University Press, 2002), 241.

Bostonians formally revolted against Andros' rule, clapped him in irons, and eventually shipped him back to England.

On April 20, the newly empowered "Council of Safety" in Boston ordered that the bulk of the army stationed in the Eastern Country return to their homes in Massachusetts, giving commanders discretion to detain "only so many as they shall judge necessary according to the circumstance of the place and things there". The council also ordered commanders Edward Tyng, Thomas Savage, Silvanus Davis, and Simon Willard to dismiss six of their fellow officers as well as "such others as they shall judge Suspitious" to be sent to Boston as prisoners.[268] Massachusetts defended their actions to the new firmly Protestant-leaning government in London by accusing the various concerned officers of being a "a papist" or "reputed papist."[269] When the Council's orders reached the dreary, worn men posted in the Eastern Country that May, chaos followed. Many seized their commanders, "debauched and quitted their stations" en masse. Soldiers abandoned eight of the eleven of Andros' "trifling forts" entirely, which to their estimation were "unnecessary" and "defended nothing."[270]

The residents of Massachusetts interpreted the urgency of Andros' expedition as a fantastic hoax, part of an elaborate popish plot hatched in Rome to destroy their colony. This conspiracy theory failed to pan out. However, to their fellow Englishmen living in the Eastern Country the prospect of annihilation became a terrifying reality in the spring of 1689. Nearly as soon as mutinying soldiers deserted the Saco Falls in early April, Indians began harassing settlers there. On May 19, English inhabitants of the Kennebec River sent desperate letters to Boston

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[268] Letter from council to Colonel Tyng, Apr. 20, 1688, DHSM 6:476–77; "On the outbreak of the Revolution I was obliged to quit my garrison an was carried prisoner to Boston." Petition of John Riggs to the King, Apr. 25, 1691, CSP 13:419.
[269] Answer of the Agents of New England to Sir E. Andros's account of the forced raised for the defense of New England in 1688, May 30, 1690, CSP 13:274.
[270] CSP 13:274–75; Order concerning soldiers at Saco, Massachusetts House of Representatives, Mar. 28, 1689, DHSM 6:470–71.

from within Sagadahoc Fort. As a consequence of "The Armye being called home" they reported that "most of our Houses being now att This Instant in a fflame." The besieged settlers pleaded "That we may have A Speedye Supply of men that we Perish Nott here." The month prior, 180 men were garrisoned on four forts along the Kennebec. Now after the revolution, the two upriver forts lay abandoned with only ten men standing watch at Sagadahoc. Commanding officer Elisha Andrews further reported from within the fort of "being so sicke" that he could not "make any Assault" against the marauding Indians torching buildings and killing cattle within eyeshot. The besieged soon discovered that Wabanakis controlled mobility on the rivers as well, cutting off their attempts to find succor. Lieutenant John Payne ventured up the Kennebec from the nearby Newtown Fort "to Take A View of ye River and Garrison and likewise to fetch Downe the Vessell ye Indians had taken" only to be waylaid from the riverbank by Wabanakis. Two months later six men lost their lives after leaving the garrison when they were overtaken by Indian canoes in attempt to retrieve cattle across the river.[271] Three soldiers stationed at Fort Mary on the Saco River met a similar fate when Indians captured them as they collected firewood on a nearby island.[272] Edmund Andros intended for the Eastern Country's rivers to be the unbroken arm whereby the English gripped the region's resources, and by extension strangle local Indians. Clearly, Wabanakis were the ones gripping English necks.

Less than two months following the harrowing reports from the Sagadahoc Fort, a diminutive English garrison lowered the English flag at their strongest fortress at Pemaquid. The triumphant Wabanakis, armed with what appeared to be French weaponry and some wearing "coloured whigs," sent the few remaining defenders home with a message. First, they

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[271] Petition of inhabitants of Kennebeck River, DHSM 6:481; Letter from Elisha Andrews, May 19, 1689, DHSM 6:480; Letter from Elisha Andrews, July 20, 1689, DHSM 9:15–16.
[272] Mather, "Decennium Luctuosum," 92.

acknowledged that "Sir Edmund Andros…had nearly starved them last winter." But now Andros and his forts were gone. The Wabanakis continued that "they no care for New England people" and would regain "all their country by and by."[273]

Massachusetts finally awoke to the serious state of affairs in the Eastern Country following the fall of Fort Pemaquid.[274] Unlike King Philip's War fourteen years earlier, Massachusetts was not saddled by its own Indian conflict and could afford to send more support east. However, just like in King Philip's War, the English revived the failed strategy of attempting to attack Wabanaki forces directly while defending settlers by fortifying towns with wooden walls, blockhouses, and a handful of young soldiers. Massachusetts war hero Benjamin Church destroyed the fortified village of Amitgonpontook on the Androscoggin River in 1690. Two years later he returned, laying waste to Indian communities in Penobscot Bay before burning crops at another fortified settlement on the Kennebec River's Ticonic Falls. Although these attacks successfully ravaged Wabanaki settlements, they failed to kill or capture many of their warriors. As a consequence, Wabanakis and their French allies would level nearly every English settlement north of the Piscataqua River when Church left.

By 1692 the Eastern Country looked much as it did after King Philip's War: devastated and devoid of English settlers. Wabanakis first struck the Piscataqua settlement at Cochecho (now Dover, New Hampshire) in June 1689, sneaking past the town's gate, killing 23 and capturing 29. The attackers specifically exacted revenge on Major Richard Waldron, who thirteen years prior treacherously captured hundreds of Indian warriors fleeing King Philip's War under a flag of truce. Waldron sold the prisoners into the Atlantic slave trade, where undoubtedly

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[273] Randolph, A short account of the loss of Pemaquid Fort, October 8, 1689, CSP, 13:115; Petition of the Inhabitants of Maine, in *Andros Tracts* 1:176–78.
[274] MA 129.268; Mather, "Decennium Luctuosum," 67.

scores perished laboring on Caribbean sugar plantations. In March 1690 Salmon Falls, also on the Piscataqua River, was razed by Wabanakis. The same force struck Falmouth on Casco Bay two months later, putting approximately two hundred English colonists to the sword after they surrendered. In 1692 another Wabanaki raiding party struck at York and Wells; symbolic settlements for being the only English communities in the Province of Maine which withstood the onslaught of King Philip's War. York fell in January, with around 75 killed and 100 captured, while a garrison at Wells outnumbered in Thermopylaen proportions narrowly repulsed the Wabanaki onslaught. Finally, in 1694 the Wabanakis again targeted the Piscataqua river, this time at Oyster River (now Durham, New Hampshire), slaying 104 and carrying 27 into captivity. New Englanders understood their sorry predicament as a matter of exhaustion, or being sapped of energy. Cotton Mather described New England's forces as "quite out of Breath! A Tedious, Lingring, Expensive Defence, against an Ever-approaching and Unapproachable Adversary, had made it so."[275]

It began to dawn upon English leaders that the nature of the conflict in the Eastern Country was different from King Philip's War. Wabanakis fled to haunts deep in a vast wilderness. When rivers froze in that frigid region pursuing them became all but impossible. In contrast, the Wampanoag or the Narragansett of southern New England did not have such avenues of retreat, instead fleeing to swamps which could be more easily surrounded. Freezing water played to English advantage as it rendered swamps traversable—such a situation made the defeat of the Narragansetts at the Great Swamp Fight in 1675 possible. Retrospectively, some must have begrudgingly seen the wisdom in their erstwhile Governor Andros' river fort strategy. In 1692, following the shocking fall of York, militia commander Elisha Hutchinson reached that

[275] Mather, "Decennium Luctuosum," 64–65, 68, 73, 76–78, 86.

conclusion. From Portsmouth he observed that "the use of Souldiers here is only for defence & preservation of the towns." In frustration he wrote that in such an arrangement "there is no way to do any Spoyle to the Enimy (they being light of foott, no abiding place & not to be found except at their fishing, or planting places." Most Wabanaki "fishing, or planting places" lay along waterways. Hutchinson suggested reoccupying one of Andros' forts at Pejepscot "or about Kenibeck…to range the woods in a body from one planting place to another to distroy their food & give them no Rest."[276] The fort could be supplied from the sea, while the river would provide quick ingress points to pursue Wabanakis. Massachusetts seemed to follow this suggestion when forces under James Converse erected a stone fort in view of the Saco Falls in 1693. Military engineer Wolfgang William Romer inspected the fort after the war in 1700, remarking that the adjacent waterfall "makes so great a noise that one can scarce hear oneself speak." He observed that the fort "is not so much a frontier as a place for defence for the salmon fishing." Romer suggested stretching a boom, or iron chain, "across the river to hinder the Indians in their canoes from coming round about the Falls…for which reason we ought to be masters of the river."[277] The fort at Saco provided a template for future confrontations if the Eastern Country was to be resettled and represents a recognition of waterfalls as powerful sites for exerting dominion.

Interbellum

The depredations of the Second Wabanaki War continued into 1699. Despite purging their lands of intrusive English settlers, the conflict was a Pyrrhic victory for the native peoples of the Dawnland. Low on food and still suffering from intermittent epidemics, some exhausted

[276] DHSM 5:337.
[277] Mather, "Decennium Luctuosum," 84; Memorial of Col. Romer to Lord Bellomont touching the Five Rivers. Apr. 11, 1700, CSP 18:367

Wabanakis sought peace in 1693. In a controversial treaty which would be cited (and refuted by Wabanakis) for years, several Wabanaki sagamores declared their "subjection and obedience unto the crown of England." Many Indians sought accommodation with the English. They must have compared the tremendous population growth in southern New England to their own febrile, declining numbers. Military resistance was not a long term solution to preserving their independence.[278] Realizing they could not turn back the torrent of English migration forever, Wabanaki sagamores sought to use their clear power advantage on the ground to accommodate English presence on their land on their terms. Wabanakis once again invited the English back, seeking favorable trade relations and protection from the Iroquois.

Massachusetts also simultaneously embarked on a new policy of conciliation in the region. The previous quarter century of English saber rattling resulted only in military and financial loss for the colony. Beginning with royally-appointed Governor the Earl of Bellomont, Massachusetts would try to befriend the Wabanakis with hopes of steering them away from French influence in Quebec and to secure the region's lucrative exports of naval stores and fish for the English Empire.[279] Almost immediately after the war Massachusetts began planning to construct trade houses on the Merrimack, Kennebec, and St. George Rivers.[280]

English trading houses soon stood athwart strategic junctures along the Eastern Country's rivers, some within sight of the ruins of Edmund Andros' forts. Despite the peaceful and considerably less menacing nature of these buildings, their significance for the Wabanakis and

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[278] William Phips, "Letter to Govr Fletcher & Draft of Treaty with Indians at Pemaquid," Aug. 24, 1693, DHSM 23:7; David L. Ghere, "Mistranslations and Misinformation: Diplomacy on the Maine Frontier, 1725 to 1755," *American Indian Culture and Research Journal* 8, no. 4 (1984): 5.
[279] CSP 18:359–60; To prevent abuses, Massachusetts prohibited selling alcohol to Eastern Indians and monopolized trade with them. AR 1:150, 172, 384–85; Britain's Royal Navy began depending on its American colonies for masts beginning in the 1650s. Nuala Zahedieh, *The Capital and the Colonies: London and the Atlantic Economy, 1660–1700* (Cambridge: Cambridge University Press, 2010), 195.
[280] MA 119.162.

English differed. For Wabanakis, the trading houses must have symbolized a recently-won victory. Seventeenth-century Wabanakis relied on European trade for survival. Wabanakis had long wanted access to cheap European goods, as well as gunpowder and places to repair their weapons. The trading houses were directed and subsidized by the Massachusetts government "so as they be sure they undersell the French".[281] Wabanakis interpreted forcing the English into an unfavorable trade relationship as an act of submission by a recently humbled foe. Veteran Benjamin Church complained that Wabanakis trading at these forts "laugh at us for our folly, that we should be at so much cost and trouble to do a thing that does us so much harm, and no manner of good." Such a *de facto* reality contradicts the *de jure* treaties with the English in 1693 and 1699 in which the Wabanakis purportedly submitted themselves to the English sovereign. Contemporary diplomatic exchanges add to this inconsistency in written documents. During a treaty at Casco Bay in June 1701, Massachusetts commissioners asked the Wabanaki delegation to "Joyne in a mutuall & publique League of amitie wth us," not demanding them to submit as fellow subjects.[282] Later that December, eight Eastern Indians met with Massachusetts' Governor's Council in 1701 and clearly stated that "If there should be a War between England and France we would not have it affect us."[283] The Wabanaki voices at Casco Bay and Boston clearly understood themselves as independent. If the English disagreed, they assented to Wabanaki declarations of autonomy with silence.[284]

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[281] DHSM 23:24.
[282] Benjamin Church to Joseph Dudley, Feb. 5, 1704 in Thomas Church, *The History of the Great Indian War of 1675 and 1676* (1716; repr., New York: H. Dayton, 1860), 248; AR 7:736. After the treaty the two sides made a monument to commemorate the event, known as the Two Brothers Point, suggesting equanimity.
[283] DHSM 23:32.
[284] As David Ghere has previously pointed out, evidence suggests that the words uttered during treaty negotiations were not necessarily the words which were recorded on parchment by English translators in surviving documents. Ghere, "Misinformation and Misinformation."

English forbearance belied their intentions. Massachusetts saw the trading houses placed on the Eastern Country's rivers as the best immediate strategy to expand their dominion in the region. By holding a friendly presence along Native travel routes the English hoped to endear themselves to Wabanakis, which would make them more pliable to English expansion as colonial population grew and Indian population declined. This about-face in Indian policy reflected changes in imperial governance. Officials in London rightly saw Massachusetts' relations with Indians as unorganized, needlessly aggressive, and inimical to the empire's interests. Bureaucrats in Whitehall echoed this sentiment in their description of the Eastern Country in 1700 as "destroy'd and laid waste in the late war, by the mismanagement and neglect of the Massachusetts Government."[285] Shortly following the accession of coregents William and Mary, Massachusetts received a new charter in 1691 which centralized authority under the crown. Senior government posts became royally appointed rather than elected by freemen. The sale of Indian lands to the English was centralized so that colonists could not buy territory protected in treaties which might ignite tensions and threaten the peace. The colony also began funding Protestant missionaries to counter the influence of Francophile Jesuit priests already embedded among the Wabanakis.[286]

The placement of forts following King William's War also reflects the new conciliatory English policy in the region. New forts were built only along the coasts, usually where rivers fell into the ocean, being "necessary for the securing of the Timber and Fishery."[287] Such forts were designed to protect against European rivals and pirates, and would not trouble Indians like those placed on the interior by Andros. This logic is apparent in the opinion of the General Court of

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[285] MA 70.493.
[286] DHSM 23:29-31.
[287] MA 70.493; Now in retirement, the Council of Trade and Plantations consulted Edmund Andros on building forts on the region, evincing a shift back to his strategies, CSP 17:228.

Massachusetts on rebuilding Fort Pemaquid, which they disapproved since it sat "much out of the ordinary Roads of the Indians" and thus could "be no Security to our Frontiers, or bridle to the Indians."[288] Besides, there were very few English settlers to defend in the region anymore. Coastal fortifications would protect fishing boats and sawmills which harvested the region's wealth for the empire from roving ocean-going vessels, while the trading houses upriver reaped goodwill among the powerful Wabanaki.

Third Wabanaki War, 1702–1713

Outside events in Europe lay waste to the delicate peace in the Eastern Country. In 1702 England declared war on France over a dispute concerning succession to the Spanish throne. Governor Vaudreuil of New France capitalized on this state of war to destroy the English rapprochement with the Wabanaki by sending 230 Micmacs and Mohawks accompanied by 30 Frenchmen to raid the Eastern Country in 1703. Vaudreuil knew that these raids would empower the anti-English factions within the various Wabanaki tribes. Unable to easily distinguish friend from foe among the Indians, the English ignorance led them to declare war on all Wabanakis, permanently destroying the seeds of peace so carefully sown the previous four years.[289]

The conflict that would rage for the next decade (known as Queen Anne's War) was fought over food energy. The English avoided the catastrophic results of the prior two wars because Massachusetts resurrected Edmund Andros' strategy of targeting the seasonal haunts along the coats and rivers where Natives found sustenance. Credit for reviving this riverine

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[288] For an example New Englanders' fear of pirates during this time, see Samuell Cranston to Samuel Shute, May 31, 1717, MA 2.166; AR 7:294–95.

[289] John G. Reid, "Notes and Comments: Unorthodox Warfare in the Northeast, 1703," *Canadian Historical Review* 74, no. 3 (1992): 211–20.

strategy belonged to Governor Joseph Dudley, a protégé of Andros who was also exiled in 1689.[290] During the winter the English patrolled the coasts to prevent Indians from accessing clam banks. In spring, expeditions marched up rivers keeping Indians from migrating fish. English armies targeted known Indian gathering places and fields such as Pequawket on the Saco River or Norridgewock on the Kennebec to burn their corn.[291] These expeditions did not immediately seem like successes. In one march up the Saco, chronicler Samuel Penhallow reported the taking of only seven Indians, saying that "although the number that we destroyed of them seems inconsiderable to what they did of ours, yet by cold, hunger, and sickness, at least a third of them was wasted since the war begun." Similarly, the English failed to do much damage to the Wabanaki villages of Norridgewock or Pequawket, either being unable to locate them, or finding them abandoned. Still, Massachusetts Governor Joseph Dudley proudly reported in 1709 that "this whole War I have kept them from all their Antient Seats and planting grounds, and driven them to Inaccessable places, and parts, where no Corn will grow for their Support".[292]

Much of New England's newfound success must be credited to their adoption of two Wabanaki technologies: snowshoes and whaleboats. Benjamin Church, a famed veteran of King Philip's and King William's War, described his preparations and strategy before embarking on a campaign in 1704. Church was by this time a grizzled sixty-five year old, and although he had grown so fat in his old age that he required a special assistant to prop him over logs when

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[290] Guy Chet, *Conquering the American Wilderness: The Triumph of European Warfare in the Colonial Northeast* (Amherst: University of Massachusetts Press, 2003), 90–92.
[291] Samuel Penhallow, *The History of the Wars of New England with the Eastern Indians* (Boston: S. Gerrish, 1726), 8–9, 60.
[292] "Governor Dudley to the Council of Trade and Plantations," Mar. 1, 1709, CSP, 24:234; Dudley made a similar statement in 1706. "I have visited with a good force all their great fishing and planting places at the heads of the rivers, so as they cannot live nor plant between Cape Cod and Penobscot, and some other places where they were never interrupted in any former warr, and this I am humbly bold to acquaint your Lordships is so very apparently the favour of (Almighty God to the) Government here, that everybody publickly acknowledges it." Governor Dudley to the Council of Trade and Plantations, Oct 2, 1706, CSP, 23:233.

pursuing the enemy, he was much experienced in the unique challenges which Indian warfare posed in the Eastern Country. First, it was key to surprise Wabanakis to “have a full stroke at them.” Then, once they fled upriver, Church would pursue them by “waylaying every passage.” To chase Wabanakis in their nimble birch bark canoes, Church recommended outfitting the men with whaleboats. The best description of this idiosyncratic New England vessel comes from a *Philosophical Transactions* article published in 1724 by Massachusetts jurist Paul Dudley. Primarily used for chasing whales, these low-drafted, double-ended boats were made of cedar clapboards, twenty feet long, “and so very light, that two Men can conveniently carry them.” Whaleboats scudded atop waves instead of plowing through them, making them “run very swift.” Whaleboats could be found around the Atlantic, but it is probably no coincidence that the light, agile versions found in New England were inspired by colonial admiration for the Native American canoe. New Englanders learned whaling from Native Americans, so it should be of little surprise they mimicked the virtues of indigenous craft into their own boatbuilding practices. Church employed whalemen to pilot these craft in his eastern expedition, to whom he promised would “be released in good season, to go home a whaling in the fall.” A whaleboat’s sleek cedar hull could be easily damaged, and Church complained of being provided “rotten boats” for previous expeditions. To prevent wrecking the boats while portaging up New England’s treacherous rivers, Church sought whaleboats outfitted with leather bands “to slip five small ash bars through; that so, whenever they land, the men may step overboard, and slip in said bars across, and take up said boat that she may not be hurt against the rocks.” Men also needed small axes to "to widen the landing place” around waterfalls. Once able to pursue Wabanakis upriver, Church’s men would track them in “Indian shoes,” or snowshoes, in closer quarters. Thomas Wickman has shown that English adoption of snowshoes played a significant role in reversing

their military fortunes in the colder northern climes of New England. The equipage Church gave his soldiers sought to match that of nimble Wabanaki warriors; that it imitated Wabanaki technology speaks to the humbling lessons colonists learned during the seventeenth century.[293]

Indians fought back during Queen Anne's War by targeting colonial food sources through killing cattle and picking off colonists harvesting crops outside their homes. Many recently resettled English settlers north of the Piscataqua River had seen this chain of events before and again fled for their lives. However, Wabanakis could much less afford to fight a war of attrition than the English. Many Wabanakis short on food and tired of the region's endless violence fled to the St. Lawrence Valley and the protection of New France. Those who remained within the reach of New England risked punitive English raids and starvation. The number of fighting men in the Penobscot tribe dwindled from 450 to 300, making "the old men weary of the war, and to covet peace."[294] In 1713, as in 1678 and 1699, both the English and Wabanaki were eager for peace. At the 1713 Treaty of Portsmouth, both sought "Amity & Friendship restored…as in their Grandfathers Days".[295]

However, the fundamental differences and misunderstandings which plagued English-Wabanaki relations remained. The text in the 1713 Treaty of Portsmouth reaffirmed Wabanaki subjection to the English and blamed them for breaking the peace. Despite signing their names to

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[293] Benjamin Church to Joseph Dudley, Feb. 5, 1704 in Church, *History of the Great Indian War*, 245–46; Francis Parkman, *A Half-Century of Conflict* (Boston: Little, Brown and Co., 1907), 1:121; Paul Dudley, "An Essay upon the Natural History of Whales," *Philosophical Transactions* 33 (1724): 262–63; Daniel Vickers, "The First Whalemen in Nantucket" in *After King Philip's War: Presence and Persistence in Indian New England* (Hanover, N. H.: University Press of New England, 1997)**,** 96–7; John A. Strong, "Indian Whalers on Long Island, 1669–1746," *Long Island History Journal* 25, no. 2 (2016); Wickman, "'Winters Embittered with Hardships,'" 57–98; Wabanakis also carried sleds and snowshoes in their canoes, exhibiting a Wabanakis characteristic Frank Speck calls a "faculty of travel to an extreme." Speck, *Penobscot Man*, 56–57.

[294] Penhallow, *History of the Wars*, 60.

[295] Baker, "Amerindian Power," 150, DHSM 23:54. The copy of the 1713 Treaty of Portsmouth had important changes. Wabanakis now could only sue for justice in English courts, they were not allowed south of the Saco River. The English also continued to claim sovereignty over Wabanakis and ownership of their land. Wabanakis once again denied this.

that agreement, the Wabanakis either misunderstood or were deceived because they rejected those claims during treaty negotiations. They challenged the English position that the French ceded their lands in the 1713 Treaty of Utrecht which ended European hostilities, saying "the French never said anything to us about it and wee wonder how they would give it away without asking us, God having at first placed us there and They having nothing to do to give it away." The Wabanakis again invited the English to resettle "their antient Plantations" under the provision the Indians kept "their own Ground, & free liberty for Hunting, Fishing, and Fowling."[296]

Postbellum

While Wabanaki military power remained formidable in 1713, their population withered in the face of unrelenting war, disease, and increasing emigration to Canada. The population of New England was going in the opposite direction, irrupting at tremendous pace. The English sensed this shifting balance of power and sought to more assertively exercise their ambitious claims to sovereignty over the Eastern Country. First and foremost, the English counted on their demographic strength to eventually outnumber the Wabanaki. Land scarcity was already becoming an issue in parts of southern New England in the early eighteenth century. Immediately following peace, proprietors looked past the Eastern Country's troubled history to acquire title to tracts for young men in search of affordable farmland and refugees who wished to return to the region. English colonists rushed to repopulate the former settlements. Within only five years of peace, Wabanakis were complaining in 1717 that the English occupied land beyond their original bounds.[297] In a stark departure from their conciliatory policies from 1699–1703,

[296] Journal of the Commissioners at Portsmouth, July 13, 1713, DHSM 23:49.
[297] Greven, *Four Generations*, 128–31; Clark, *Eastern Frontier*, 122–24, DHSM 23:83–84.

Massachusetts refused to fund the construction of subsidized Indian trading posts promised in the Treaty of Portsmouth. Instead they allowed the Indians to "trade with anyone or in any part of the Province." Indians suffered from the lack of supplies while also encountering old abuses related to the sale of alcohol and furs with private traders. The state of relations was not "as in their Grandfathers days."[298]

Past experiences painfully demonstrated to the English that conquering the Wabanaki required destroying their will and ability to fight, not necessarily defeating them in combat. The 1688 Edmund Andros campaign and Queen Anne's War showed English strategists that they could defeat the Wabanakis only by limiting their access to food. In the Eastern Country, that access point was the region's many rivers. Since war had first broken out in 1675, the English learned repeatedly the dangers of underestimating the Eastern Indians. Wabanaki warriors manipulated the region's waterpower in lightweight birchbark canoes allowing them to cover space more efficiently than their colonial adversaries. They used their mobility advantage to make surgical strikes on unsuspecting settlements which engendered terror and a sense of helplessness among colonists. As a result, the English were highly suspicious of Wabanaki mobility. Controlling access to the region's rivers deprived Wabanakis of their fastest travel routes, the element of surprise, and ease of escape. For these reasons, the aggressive shift in English policy would be focus primarily on the region's rivers, and by extension the diffuse caloric and kinetic energy sources Wabanakis reaped from them. Despite several disadvantages, the Wabanakis had avoided the fate of their southern neighbors and remained independent. Defying the British Empire would become only more daunting in the coming years. They would make their stand on the Dawnland's rivers.

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[298] Morrison, *Embattled Northeast*, 172.

Chapter 4: Bridled Rivers: The English Conquest of New England's Waterways

"We are a little uneasy concerning these Lands, but are willing the English shall possess all they have done, excepting Forts." Wiwurna, 1717

"This…fort was originally intended for the hindring the Indians Fishing by the falls in that River and their carrying their Cannoes." Samuel Shute, 1720 [299]

An uneasy peace permeated the Eastern Country following the 1713 Treaty of Portsmouth. Despite remaining unconquered, Wabanaki population dwindled from disease and the turmoil of seemingly unceasing war. In contrast, the British colonial population centered in Boston continued to grow. Immigrants and young people lusted for farmland, little of which could be found in southern New England anymore.[300] The rocky soil and frigid climate of New Hampshire and Maine no longer appeared as daunting as it once did to potential settlers and land speculators. This British vision of the future for New Hampshire and Maine had little room for Wabanakis. An inconvenient detail in their plan was that the Wabanakis had valiantly repulsed incursions into their Dawnland. They still controlled their territory and regarded themselves as "Brethren, but not Subjects of the King." Bolstered by their growing population relative to Wabanaki decline, the British began to liberally interpret earlier treaties to argue they owned the land. Yet how the British would enforce their theoretical claims to ownership of a region they had not yet conquered remained an unanswered question.

Immediate experience had shown the British that only a slow war of attrition could deter the Wabanaki threat. The successes of Governors Edmund Andros and Joseph Dudley

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[299] CMeHS 1st ser., 3:370; DHSM 23:85.
[300] Kenneth Lockridge, "Land, Population and the Evolution of New England Society 1630–1790," *Past & Present* 39, no. 1 (1968): 69–71.

demonstrated that the best way to prosecute such a strategy was to fortify and patrol the Eastern Country's rivers which kept Indians off the best planting grounds, fishing places, and fastest travel routes. Likewise, Wabanaki leaders knew their military strength depended on preserving unrestricted mobility across their homeland to gather food or outmaneuver enemies. Consequently, rivers would be at center of both British and Wabanaki policies in the Eastern Country during the early eighteenth century. This is not apparent in surviving documents since meetings between British and Wabanaki diplomats ostensibly revolved around the validity of abstract lines drawn in land deeds. But as the region's tumultuous history had shown, force or the threat of force was ultimately the deciding factor in these land arguments. Proprietors could not attract colonists to eastern tracts they claimed to own if those colonists did not feel safe. To secure their tenuous claims, proprietors with the aid of Massachusetts would build forts at important waterfall sites shortly after the 1713 peace. These forts were not necessarily designed to protect settlers, rather to close rivers to Wabanakis by depriving them of a crucial energy source. Much like how a mill concentrated river energy at a single point, river forts had the same effect by monitoring the waterfall points that were essential for accessing river spaces and resources and spaces connected to them. River fortifications on the Androscoggin and Kennebec would inaugurate war across the Eastern Country in 1722, while a fort erected in 1759 on the Penobscot would for all practical purposes end it.

Events at the far eastern English settlement of Pejepscot (now Brunswick, Maine) would become the flashpoint for Massachusetts' expansion strategy. Pejepscot, meaning "long, rocky rapids," received its name from the first falls on the Androscoggin River, the slightly smaller twin just west of the Kennebec. Like many waterfall sites in the region, the Pejepscot Falls were

a nexus for Indian travel.[301] Sometime in the 1620s Thomas Purchase erected a trading house at Pejepscot to truck furs with the passing Wabanakis. Located far from other English settlements, the trading post was quickly destroyed in 1675 during King Philip's War. Indians invited the English to rebuild their trading post in an ensuing peace talk.[302] In 1688 Edmund Andros saw fit to put one of his forts at Pejepscot as part of his river blockade strategy. Upon hearing news of the revolution in Massachusetts, Major Thomas Savage and his fellow soldiers in Fort Pejepscot seized their commanding officer Colonel Patrick Macgregory for his alleged "cruelty to them."[303] The fort was hastily abandoned thereafter. Shortly following the 1713 Treaty of Portsmouth, a group of well-heeled New England merchants known as the Pejepscot Proprietors bought up the land titles held by the former settlers who had long since fled the horrors of the area.[304] With peace, the Pejepscot Proprietors saw a business opportunity. Of all their land claims, they believed two townships "one on each Side Pejepscot Falls…on Ambroscoggen River" to be of the best "convenience" for immediate settlement.[305]

Pejepscot would be a new type of colonial village. Massachusetts began supervising the establishment of towns, replacing the informal, helter-skelter nature of colonization which had proven so disastrous the prior forty years. The committee organized to oversee the repopulation

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[301] "This Pegypscot is the seat of the Amoscogging Indians." Hubbard, *Indian Wars*, 196; "This [Maquoit] is a bay of shoal waters, where the Indians used to land with their canoes, and from thence carry those vessels over to Pejepscott Falls on Androscoggin river. This was done by the Savages with the toil of only four miles walk. From these falls, they went down into Kenebeck river, and from thence continued their rout up that river to Wesserunsett, and thence over to the St. Lawrence; or turned and went down through Monseag Bay towards Penobscot; or from the falls they continued their progress up the river of Androscoggin beyond the White Mountains, and over to Connecticut river, from thence to Lake Mesremagog, and down to the limits of Canada." Sullivan, *History of the District of Maine*, 14.
[302] George Augustus Wheeler and Henry Warren Wheeler, *History of Brunswick, Topsham, and Harpswell, Maine* (Boston, 1878), 50; Bourque, *Twelve Thousand Years*, 157.
[303] CSP, 13:274.
[304] John G. Reid, "The Sakamow's Anger and the Governor's Discourtesy: Negotiated Imperialism and the Arrowsic Conference, 1717" in *Essays on Northeastern North America* (Toronto: University of Toronto Press, 2008), 157.
[305] Committee's Report, May 17, 1715, DHSM 24:238–39.

of the Eastern Country endorsed the Pejepscot Proprietors' application because it would "make a Strong Frontier for our Out-Towns" since a fort on the falls there "will greatly tend to dislodge the Indians from their Principall Fishery, keep them from their carrying Places, & possibly be a Means of removing them further from us, if another War should happen."[306] Previous English communities in the Eastern Country anticipated that they would live beside local Indians with their only defenses being fortified houses and walls which they could retreat behind. The English designed the fortifications at the Pejepscot Falls to facilitate their expansion into the region by circumscribing Wabanaki access to the Androscoggin River's energy. It was no coincidence that the ruins of one of Andros' forts lay nearby. Massachusetts ordered the name of the place be changed from Pejepscot to Brunswick and Topsham, and the fort be called Fort George. Pejepscot was intended to be an English place without Indian neighbors.

The Pejepscot Proprietors were well aware to the consequences of their fort's location and the importance of their settlement to the larger colonial project. When requesting funds, they anticipated the penny-pinching Massachusetts General Court "inclinable to a Wooden Fort on account of the Cheapness of it". The proprietors had seen many a wooden English wall put to flame and knew such an edifice would not likely withstand an Indian attack, saying "We being sensible that as this Fort is set so, as to be a Bridle to the Indians; So if a War should arise…they will leave no means untryed to become Masters of it". They proposed building a stone fort and offered to foot the extra cost themselves.[307] The association of the fort with the word "bridle" would be a metaphor repeatedly invoked, and is worth pausing over. Bridles channeled the power of animal muscle toward human designs. Fort George would guard the energy at Pejepscot Falls and if necessary keep it from hostile Indians. The result would have the effect of

[306] DHSM 24:238–39, 245–46.
[307] DHSM 24:249–51.

making the Wabanaki submit, not unlike bridled animals bound under the yoke, to the designs of British imperial rule. The Pejepscot Proprietors knew that local Indians would bristle at such a new type of fort, and try to shrug off that bridle as quickly as possible.

In August 1715 John Gyles sailed north to direct the construction of Fort George. The Pejepscot Proprietors had made a prudent choice in hiring this unique man. Maliseets plucked Gyles away from his family during their successful 1699 attack on Pemaquid. Over the next six years he became fluent in Wabanaki before being redeemed by the French at age seventeen. Gyles' language skills made him an invaluable asset to the English, who enlisted his services as an interpreter and scribe during conferences and treaty sessions. An Englishman capable of discoursing with Indians and with diplomatic experience such as John Gyles was a marked departure from the trigger-happy diplomacy of Walter Gendall and Benjamin Blackman, whose reckless bravado precipitated King William's War in 1688. Gyles was a wise choice because the Pejepscot Proprietors anticipated their fort would immediately provoke local Indians, which as Gyles later recounted, indeed happened:

> Soon after our Arrival there, the Indians came in the Night, and forbid our laying one Stone upon another. I told them I came with Orders from Governour Dudley to build a Fort, and if they dislik'd it they might aquaint him of it: and that if they came forceably upon us they or I should fall on the Spot: After such hot Words they left us, and went on with our Building.[308]

The soldiers who would be later garrisoned at the fort completed construction that November without incident.

A change in the governorship would impact the events that followed. In 1716 the British[309] Government replaced Massachusetts Governor Joseph Dudley with Samuel Shute.

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[308] Gyles, *Memoirs*, 43–44.
[309] The 1707 Act of Union united Scotland and England into Great Britain. "British" rather than "English" will be used henceforth.

Dudley was a career politician and native of the colony who had been governor for the past thirteen years. Shute, a military officer who had never set foot in America before, could not have been more different. When the newly minted Shute arrived in Massachusetts "A treaty or conference was thought expedient" to strengthen Wabanaki "friendship with the English." Specifically, they were troubled by the influence of a French Jesuit missionary named Sebastian Rale, who proselytized among the Kennebec tribe of Wabanakis at Norridgewock on the Kennebec River. The English believed the best way to improve relations with the Wabanakis was to "draw them from the roman catholic to the protestant religion."[310] A meeting was scheduled for the next year.

Three years after the Treaty of Portsmouth the state of affairs between Wabanakis and the English was not the picture envisioned in 1713: English settlers occupied new lands, Massachusetts had neither built trading houses nor sent Protestant ministers as promised, and now an intimidating fort commanded a crucial Indian travel route and food source. Indians responded to these transgressions by killing cattle and threatening settlers.[311] Tellingly, of all these treaty violations the primary complaint concerned the new fort guarding the Androscoggin's Pejepscot Falls when they sat with the English in 1717.

Samuel Shute was a neophyte to New England politics and consequently read prior Wabanaki treaties literally, with little appreciation for the contexts in which those agreements were forged. His predecessor Joseph Dudley was well acquainted with the tenuous nature of British claims to the Eastern Country and had been much more flexible with the Indians realizing that British claims to sovereignty could not actually be enforced. Where Dudley appeased

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[310] Thomas Hutchinson, *The History of Massachusets Bay* (Boston, 1767), 2:218; The Kennebecs were also known as Norridgewocks, after their major village. I have chosen Kennebec as it is more representative of the polity that extended along the entire Kennebec Valley.
[311] Penhallow, *History of the Wars*, 83.

Wabanakis with guarantees of trade and military support, Shute saw the Indians as simply subjects of his King. When Shute arrived to meet with Wabanakis on Arrowsic Island on the Kennebec River in August of 1717, his intent was to exercise British power over those supposed subjects.

The English delegation planned to awe the Wabanakis with their strength before they even stepped onshore to conduct the treaty. Shute sailed from Boston in the HMS *Squirrel*, a sixth-class frigate from the Royal Navy. Upon reaching the entrance of the Kennebec River a few English diplomats left the *Squirrel* and boarded a smaller sloop to convey them up the shallower river to the treaty site on Arrowsic Island. Instead of following in a like manner, Governor Shute ordered captain Thomas Smart to sail the *Squirrel* upriver directly to the island to impress the Wabanaki delegation. Smart worried that the river was too shallow for his vessel, as did the local pilot Cyprian Southack. Shute refused to heed these concerns, insisting that the ship's presence was necessary "to keep the Indians in more Subjection at the Place of the Conference". The *Squirrel* cautiously ascended the narrowing Kennebec. To everyone's initial relief they reached Arrowsic. Then suddenly, just as the ship hove to, the *Squirrel* was picked up by a change in the river's current and hurled into the shore. As the tide flushed back into the ocean, Shute found himself mired in the riverbed. The British frantically unloaded heavy items like its cannons and floated the maimed *Squirrel* off as soon as the tide returned. Needless to say, the Wabanakis watching from the opposite shore were not awed by the might of the British Empire in that moment. The entire incident was illustrative of the variance between British claims to power in the Eastern Country with practical realities.[312]

[312] Reid, "The Sakamow's Anger," 154–55.

Governor Shute shook off the awkward nature of his arrival by handing the Wabanakis a Union Jack then bluntly declaring their subjugation to the British Crown, scolding them to "remember at all times that they are King George's Subjects" and that dealings with the French violated past treaties. The Wabanaki delegation quietly listened to Shute, then requested leave to respond the next day. Wiwurna, Sagamore of the Kennebecs, stepped forward to respond to the governor. His rejoinder would be more nuanced, but also direct. First, Wiwurna observed that Shute had never left Europe before, and that he gently inquired whether he was "Acquainted with the Affairs of New-England," continuing that in previous conversations "Other Governours have said to us that we are under no other Government but our own." Shute, clearly confused, quickly responded "How is that?" The oblivious Governor of Massachusetts had just stumbled onto the fundamental misunderstanding of the previous three decades in English-Wabanaki relations. That the Wabanaki delegation claimed that they had been repeatedly assured of their independence by previous governors, and that such an understanding is not in the treaties of 1693, 1699, 1703, and 1713, gives credence to historian David Ghere's theory that the English consciously manipulated written records. Wiwurna further elaborated the conditions of the previous treaties as the Wabanakis understood them. He reminded Shute that the English currently dwelling in their Dawnland did so only because Indians consented to it. The rush of New Englanders to the region troubled the Wabanakis who feared "We shan't be able to hold them all in our Bosoms…if it be like to be bad Weather, and Mischief be Threatned." Wabanakis would be obedient to King George only "if we like the Offers made us."[313]

Things got tense when Wiwurna mentioned the *Squirrel* debacle from the day before, remarking "Your Excellency was not sensible how sick we were Yesterday to see the Man of

[313] CMeHS 1st ser., 3:363, 366–67.

War ashoar…we sent our Young Men early this Morning to see if the Ship was well." Shute, embarrassed that he was failing to command the respect that he reckoned owed him, became short with Wirwurna, quickly responding that the Wabanakis "must be sensible and satisfied that the English own this Land, and have Deeds that shew, and set forth their Purchase from their Ancestors." The Wabanakis concurred with this premise, then asserted that positively no land had been sold east of the Kennebec River, where some Englishmen now lived. Shute dubiously replied "we desire only what is our own, and that we will have."[314] This seemingly straight-forward promise belied the ambiguity and obscure origins of these English claims. Wiwurna chose not to confront the governor directly on the land ownership issue, choosing instead to focus elsewhere. It is likely that he understood that the English would never resolve their differences with Wabanakis on land ownership because their conceptions of property were so different.[315] As the last four decades had shown, force alone determined the legitimacy of these claims.

Power in the Eastern Country had little to do with the names and lines etched on hoary parchment. Wabanaki power rested on the ability to freely move about their country. This was requisite for their seasonal pursuit of food and usually the determining factor in war. Indian mobility was synonymous with rivers because they "went by water whenever possible," which is seen in the ubiquity of canoes in historical records and that their trails were almost always routes portaging to another river or lake.[316] Instead of pushing Shute on land claims, Wiwurna focused

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[314] CMeHS, 1st ser., 3:367–68, 369

[315] The 1727 testimony of the Penobscot Indian Panaouamskeyen summarizes the Wabanaki conception of property: "Here lies my distinction—my Indian distinction. God hath willed that I have no King, and that I be master of my lands in common." Indian Explanation of the Treaty of Casco Bay, NYCD 9:967.

[316] Wheeler, *History of Brunswick*, 6.

his diplomatic energies on the issue that actually mattered: the free access to rivers which the new fort at Pejepscot denied them.[317]

After butting heads on property ownership, Wiwurna skillfully turned the conversation to that issue. He asserted "it was said at Casco Treaty [of 1701], that no more Forts should be made." Shute sidestepped confirming this violation of a treaty stipulation by reassuring the Wabanakis, "The Forts are not made for their hurt, and that I wonder they should speak against them, when they are for the security of both, we being all Subjects of King George."[318] This was a lie. Shute himself would later write three years later "This last fort [Pejepscot] was originally intended for the hindring the Indians Fishing by the ffalls in that River and their carrying their Cannoes."[319] The Indians were clearly keen to maintaining their right to freely traverse their country since Wiwurna raised those very issues, asking "We shall have Fishing and Fowling wherever we will?" and promising "We will be very Obedient to the King, if we are not Molested in the Improvement of our Lands."[320] Wiwurna responded forthrightly to Shute's fort apologetic: "We should be pleased with King George if there was never a Fort in the Eastern Parts." Shute attempted to reassure the Wabanakis by asking "Are any People under the same Government afraid of being made too strong to keep out enemies?" Wiwurna, sensing the hard bargain Shute was driving, conceded "We are a little uneasy concerning these Lands, but are willing the English shall possess all they have done, excepting Forts." The Wabanakis were willing to cede nominal ownership of land, but not the river. Shute would not budge. The forts would stay. Upon hearing this, the Wabanakis "rose up at once & withdrew, in a hasty abrupt

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[317] CMeHS 1st ser., 3:367.
[318] Ibid., 3:369. Unfortunately there is no extant copy of the 1701 treaty, only a transcript of the negotiations.
[319] MA 29.60.
[320] CMeHS 1st ser., 3:367, 370.

manner without taking leave," refusing to bring the British flag Massachusetts officials gifted them.[321]

The next day Governor Shute boarded the *Squirrel* and loosed his fore topsail. Thinking that Shute might be leaving on such ugly note, the Wabanaki delegation paddled to the ship and tried to strike a different tone. Wiwurna was not among them. The Wabanakis did not raise the fort issue, instead pressing the English to only simply live up to their earlier promises to only "Settle as far as they have done", build a trading post, and provide them with a gunsmith.[322] Although Wiwurna was barred from that day's negotiations, letters to Quebec from Father Sebastian Rale indicate the Kennebec Sagamore represented the opinion of most Wabanakis. The remaining Wabanaki delegation accommodated Massachusetts' transgressions and Governor Shute's non-answers because they needed English supplies and could ill afford another war. French trade goods were expensive, and New France was unwilling to support Wabanaki resistance to the English, as they too wished to avoid another costly conflict. Despite many past difficulties, the people of the Dawnland wanted to work with the British.[323]

But by refusing to bend on the fort issue which prompted the meeting at Arrowsic, Governor Shute invited future confrontation. Settlers continued to pour into the Eastern Country. Confident of their growing strength, proprietors claimed even more territory. These new claims were legitimized by land sales from the previous century, claims the British never would have dreamed of citing and enforcing twenty years earlier. The most transgressive of these land claims

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[321] CMeHS 1st ser., 3:370; The Wabanaki position that they maintained sovereignty over the region's rivers is articulated in the 1688 Saco Indian complaint that the English took river fish. "This they were greatly affronted at, saying They thought (though the English had got away their Lands as they had, yet) the Fishery of the Rivers had been a Priviledge reserved Entire unto themselves." Mather, "Decennium Luctuosum," 61.
[322] CMeHS 1st ser., 3:371–73.
[323] Douglas Hay, "Wowurna," in Dictionary of Canadian Biography, vol. 2, University of Toronto/Université Laval, 2003–, accessed Aug. 30, 2016, http://www.biographi.ca/en/bio/wowurna_2E.html.

was the Muscongus Patent from 1630 which extended east of the Kennebec fifty miles to the Penobscot River. The original patent gave rights to trade with the Indians, but John Leverett and his associates opened the land to colonists and even fortified an old trading post located on the St. George River in 1720.[324] Shortly after the Treaty of Arrowsic, Shute's mum reply that "we desire only what is our own, and that we will have" made it clear to Wabanakis that the British intended to expand untrammeled into their homeland.[325]

Exasperated Wabanakis were at a breaking point. Although desperately seeking peace, the pressure of unceasing migration from New England forced them into violent resistance or surrender. In 1719 English settlers along the Kennebec River complained of their Kennebec Indian neighbors "manifesting a very hostile Disposition" toward them, killing their cattle and terrorizing colonists who occupied new outlying plots. Wabankis responded to their victim's pleas by saying "Complain all you want to the Governor, he is not my judge. And as for the payment for the cattle, ask whoever told you to settle there." Several families got the message and "forsook their habitations." Residents of the Eastern Country were clearly not as confident as their saber-rattling government in Boston was. A 1720 history of New England described most Maine towns having "small Fortifications to prevent the Incursions of the Eastern Indians who might otherwise over-run the Country in 24 Hours." By August 1720, Richard Waldron reported in an express letter to Boston on the "Malancholly State of the eastern parts", that all of the Eastern Country from the Kennebec to the Piscataqua "are all entering into garrison" and warning that "unless they are Speedily covered, The new Settlements will be totally overthrown." The resounding Wabanaki military victories of the prior fifty years instilled not

[324] AR 9:440–41; The location of the fort was at a point where the St. George River narrows considerably, which likely made it an ideal portage and fishing site.
[325] Bourque, *Twelve Thousand Years*, 184–85; Penhallow, *History of the Wars*, 91–92.

only jitters but a respect for Native power in the East. Nervous proprietors saw their investment at risk and pleaded with the Massachusetts for military assistance.[326]

Although later official declarations would accuse the Wabanakis of initiating bloodshed and breaking the peace,[327] English voices quietly acknowledged their guilt in instigating the violence. Samuel Penhallow observed that in New England "some were not satisfied with the Lawfulness" of a potential war, since "the English had not so punctually observed the promises made to [the Wabanakis] of Trading-houses for the benefit of Commerce and Traffick, and for the preventing of Frauds and Extortions, too common in the private dealings of the English with them." Massachusetts jurist Samuel Sewall made the same point by summoning lines from Massachusetts Bay's original charter which outlined its commitment to converting Indians to Christianity. Sewall saw a powerful state oppressing a weak neighbor, and worried that the colony was in danger of losing its moral compass. In a rhetorical style not unusual for Sewall, he looked to scripture for guidance, citing a war between the Israelites "and their Bretheren the Benjamites," where the Israelites greatly outnumbered their adversary yet suffered disproportionately worse casualties. He observed that at the 1717 meeting at Arrowsic, it was the Massachusetts delegation who refused peace when they rejected the Wabanaki proposal to establish a clear boundary between them, something "necessary for the preservation of Honesty and Peace among those that border one another". Sewall and other Massachusetts citizens realized that Governor Shute's failure to establish distinct borders enabled English land acquisition and incited progressively weaker Wabanakis into an open conflict they had little chance of winning. Sewall was in the minority of voting-eligible males, since the Massachusetts

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[326] MHJ 2:176, 249; Morrison, *Embattled Northeast*, 180; Daniel Neal, *The History of New-England, Containing an Impartial Account of the Civil and Ecclesiastical Affairs of the Country, to the Year of our Lord, 1700* (London: J. Clark, 1720), 2:579; Richard Waldron to Lt Gov. Dummer & Council, Aug. 25, 1720, DHSM 9:458.
[327] Samuel Shute, "Proclamation," July 25, 1722 in Penhallow, *History of the Wars*, 88–91.

General Court refused to live up to treaty agreements to fund trading houses and repeatedly granted new land to proprietors. Sewall appealed to Massachusetts' better angels to plot a more honorable course "to perswade the Kennebeck Indians to be our Dependents and Friends, by *Really* convincing them, it is their True Interest so to be." It was plain to see even for contemporaries that Massachusetts was dealing falsely with the Wabanaki and wanted another war to enable further settlement of the Eastern Country.[328]

Fourth Wabanaki War, 1722–1725

In July 1720 Massachusetts ordered fifty soldiers sent to the Kennebec region to defend colonists and enforce proprietors' claims. Instead of just being garrisoned in proximity to the harassed settlers, twenty were "plac'd at Thwit's [*sic*] Point in Kennebeck River, a place Represented most advantagious to Encourage and Cover the Eastern Settlements".[329] Thwait's Point lay upriver of the settlements on a bend of the Kennebec where the river narrows considerably. The English realized that no canoe or other vessel could float up or down the Eastern Country's major riverine thoroughfare without passing by that spot. By 1721 a structure named Fort Richmond was in place.[330]

The fortification of yet another crucial river point was one of the more serious provocations which pushed Wabanakis into open confrontation with the British. On July 28, 1721, an armada of 90 canoes carrying 250 Wabanakis floated down the Kennebec to the English

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[328] Penhallow, 87-8; Samuel Sewall, *A Memorial Relating to the Kennebeck Indians*, Sept. 8, 1721, CMeHS 1st ser., 3:351–53 [emphasis added]; for examples of Sewall's providential worldview, see David D. Hall, "The Mental Worlds of Samuel Sewall," *Proceedings of the Massachusetts Historical Society* 92 (1980): 21–44.
[329] MHJ 2:249
[330] Conference with Indians at Georgetown, Nov. 25, 1720, DHSM 23:100–05.

fort on Arrowsic Island. First they deposited the ransom of 200 beaver skins for four of their sagamores held captive in Boston. Then they announced to the garrison that English settlements east of the Kennebec River had three weeks to vacate before "they would burn their Houses and kill them as also their Cattle."[331] The Wabanaki reasserted their claim to sovereignty over the Dawnland, reminding the English that the French never held right to their homeland, and that the English certainly had no right to it since the Wabanakis stood undefeated in war with them. In this declaration, the Wabanakis coupled English occupation of the land with the construction of forts, which in their minds were separate, yet tantamount offenses. The letter read at Arrowsic on that July day began by accusing the English of "establishing and fortifying thyself therein against my will, as thou hast done in my River of Anmoukangan, of Kenibekki…where I have been suprised to see a fort which they tell me is built by thy orders." The few legitimate land sales the Wabanakis also deemed void "because of the abuse which thou hadst made of them," again citing English construction of forts "in their River." The Indian

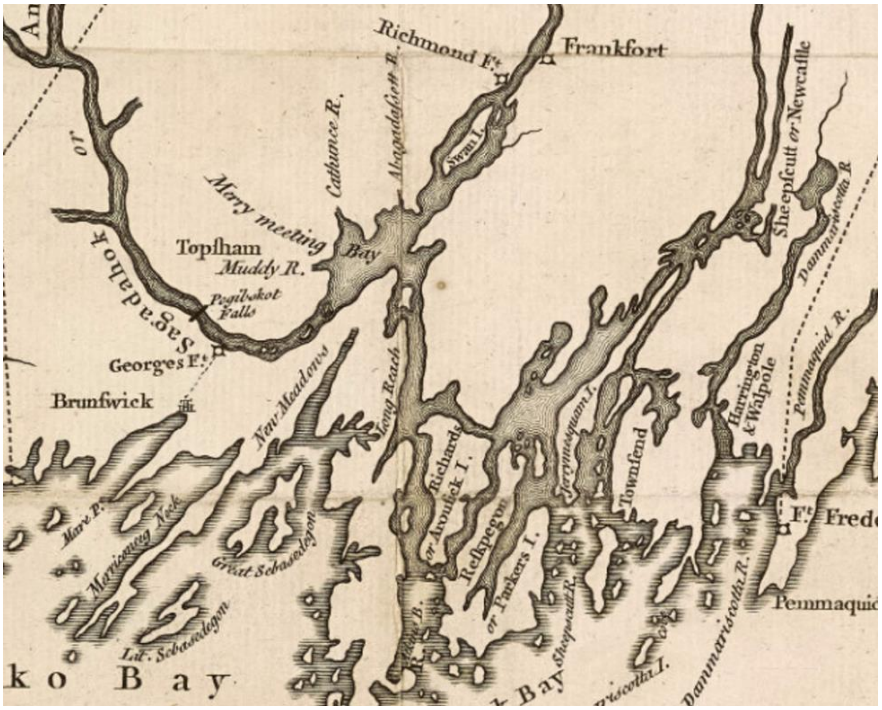

Figure 12 Forts George, Richmond, Frankfort, and Frederick (Pemaquid) pictured. Thomas Johnston, A Plan of Kennebek & Sagadahok Rivers, 1754, Osher Map Library.

[331] Penhallow, *History of the Wars*, 85; Messrs. De Vaudreuil and Begon to Louis XV, October 8, 1721, NYCD 9:903–05; "Penhallow Papers—Indian Affairs," *New England Historical and Genealogical Journal* 32 (1878): 21; *Jesuit Relations*, 67:103–09.

delegation sought the unrestricted mobility which English forts like Pejepscot and Richmond denied them, and henceforth barred English settlement from all waterways, or "adjacent where my canoe can go."[332]

What followed the ultimatum delivered at Arrowsic was five years of war. With a clear numerical advantage and a river strategy which had yielded prior successes, the English looked to strike a finishing blow to Wabanaki sovereignty in the Kennebec Valley. The first aim was to garrison the forts on the Eastern Country's major rivers to check Wabanaki mobility and protect English settlers. Samuel Shute outlined this plan to the General Court, saying "I have nothing more to Recommend to you, but the enlarging the Fort at Richmond, and building another at Cushnock [rapids upriver on the Kennebec], which, tho' the Expence will be but inconsiderable, yet will very much annoy the Indians, and prove of Great Service to the Forces when any March shall be made towards their head Quarters, or any other parts of the Eastern Country." Once secured, the second aim was to push Wabankis off these river spaces. The Massachusetts General Court ordered that one third of the soldiers being raised for the Eastern Country "be Constantly Employed, to make discovery of the Indians & to Observe, their Motions, & to acquaint themselves, with their Fishing & Carrying places."[333] By concentrating on rivers, Massachusetts would either force the Wabanakis into direct confrontation, or starve them out.

Formal hostilities began in June 1722 when Wabanakis erupted across the Eastern Country, besieging the river Forts George (Pejepscot), Richmond, and St. George. Although they succeeded in capturing scores of settlers and razing surrounding homes, the bulwarks withstood the attacks which crashed around them. As a result, the English maintained their stranglehold

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[332] Baxter, *The Pioneers of New France*, 111–18.
[333] MHJ 4:102; AR 10:200–01.

overlooking their respective river corridors.[334] Wabanakis reverted to the strategy which worked so well in times past: retreating deep into the wilderness to their river forts at Penobscot, Norridgewock, and Pequawket. Redeemed English captives reported that Indians relied on the food energy in rivers, subsisting on "great Quantitys of Sturgeon Bass and Eels." In searching out these Indian "Head Quarters" during the winter of 1722–23, the English initially found little success. Massachusetts outfitted their troops with snowshoes in anticipation of a harsh New England winter. Instead, there was "no Snow in ye woods, nor the Rivers frozen" and "Could not go far" in the mucky terrain. The slow pace compounded English ignorance of the land beyond the coast. In his pursuit of Wabanakis up the Androscoggin River, Johnson Harmon "found the river was wholley broke up & ye Designed march frustreat." Colonel Westbrook knew the location of the large Indian fort on the Penobscot River but could not attack that September, it being "impossible to Carry up Whale boats by reason ye falls are 8 or 9 Miles Long". When attempting again before fishing season, Westbrook's plans were thwarted by a lack of food and "Our Whale-Boates are so shatter'd & Defective, that they're unfit for Men to venture their lives in". By the time the English could resupply and mass soldiers to the Penobscot Fort, they found only a deserted village.[335]

1723 was a slow year for the colonial troops, who expected to defeat the Indians handily. Experience gave them confidence in their river blockade strategy, however. In an address to the General Assembly, Governor William Dummer[336] thanked that body for sending more soldiers to

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[334] William Blake Trask, ed., *Letters of Colonel Thomas Westbrook and Others Relative to Indian Affairs in Maine, 1722-1726* (Boston, 1901), 43.
[335] John Penhallow to Dummer, Feb. 28, 1723 in Trask, *Letters of Colonel Thomas Westbrook*, 14; Johnson Harmon to Dummer, Feb. 25, 1723 in ibid., 11; *New England Courant*, Mar. 18, 1723; Westbrook to Dummer, Sept. 23, 1722 in Trask, *Letters of Colonel Thomas Westbrook*, 8; Westbrook to Dummer, Feb. 27, 1723 in ibid, 12–13.
[336] William Dummer was technically Lieutenant Governor, but became Acting Governor when Samuel Shute departed for England at the turn of 1723.

the Eastern Country, who, although lacking a decisive victory, "have penetrated far into the Enemies Country, to their great Terror, and by the favour of God has also prov'd the best Protection to our Frontier Towns."[337] As Dummer's speech testifies, repeated defeats at the hands of Wabanakis had shown the English that simply garrisoning their settlements against Wabanakis, who would eventually find a weak link and attack with ferocious precision, did not produce the desired protection. The best defensive strategy was to keep their opponents harried while depriving them of the food and water energy required for their style of warfare.

The rivets in this English defensive strategy were the new river forts which resupplied their soldiers. In prior conflicts, Wabanakis would attack in devastating bursts, then wait for disease or starvation to finish off the remaining English who did not flee in horror. During a parlay at Fort St. George, Wabanakis revealed they were following that proven tactic as they attempted to cajole the English into surrendering, asking "What you stay, You can do nothing but lose men, and it is not worth your while only for the sake of keeping that house". The Indians noticed that English in the fort were falling from disease as in times past, "telling us we had lost a great many men already, and shou'd lose more". The English commander replied with the trite, yet effective answer "Here is a good Harbour." For from within the holds of sea-borne ships the English were delivered new recruits as well as "Molasses, meal, Rice &c." harvested by slaves from distant colonies within the British Empire.[338] In a 1723 order from Dummer to patrol the Androscoggin and Saco Rivers "to surprise the Indians at their Fishing and Fowling", he specified that the scouting parties "carry a Months Provision & not return…till it be spent."[339]

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[337] *Boston Gazette*, Nov. 8, 1723.
[338] Treaty with ye Indians, July 21, 1724 in Trask, *Letters of Colonel Thomas Westbrook*, 66-7; Dummer to Westbrook, Apr. 25, 1723 in ibid., 33. It also helped that during the Fourth Wabanaki War of 1722–5 (also confusingly known as Dummer's, Lovewell's, or Father Rale's War), unlike the previous three conflicts, Massachusetts was not embroiled in its own conflicts, whether with other Indians as in the first, or the French in the second or third. Consequently, it was much easier to deliver men and resources.
[339] Mar. 20, 1723, Trask, *Letters of Colonel Thomas Westbrook*, 45.

With outside supplies being injected into river forts to keep Indians off their fishing, fowling, and planting grounds, the English turned the fifty-year war of attrition in their favor.

Since English soldiers knew rivers would be the best places to find Indians, and vise-versa, it follows that most of the fighting occurred there. When a soldier wandering outside of Fort Richmond was shot "thro' the Body and right Hand" the attackers "made off so fast" into the woods that commander Joseph Heath "found it to no purpose to follow them that way". Instead, Heath instinctively took two boats up the Kennebec River, probably to a carrying place, "where we judged the Indians would come." Indeed, the next day they saw four canoes, which they barraged with gunfire from the river bank. The surviving Indians jumped into the water and once again escaped into the woods. Allison Brown took a similar river-oriented approach in his mission up the Saco where he continually "way layd and Ambusht the River" in his march.[340] These confrontations were not one-sided colonial victories. In May 1724, Wabanakis ambushed sixteen English soldiers patrolling St. George's River where Indians were known to "usually frequent on account of Fowling." First the Indians poured down fire from both banks then enveloped the survivors "with about thirty Canoos, who made a hideous yelling." Few escaped the boats to the fort upstream with their lives. The blood ruddling the Eastern Country's streams speaks to their central importance in the larger Anglo-Wabanaki conflict.[341]

The Fourth Wabanaki War shows an awareness on the part of colonists to the strategic importance of rivers that did not exist during earlier conflicts in the Eastern Country. Colonists in Maine away from the fighting placed a garrison house on the York River, "it being the place where the Indians frequently come in with their Scouts" as well as to cover farmers harvesting

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[340] *New England Courant*, Apr. 15, 1723. Sagt Browns Journal, May 9, 1724 in Trask, *Letters of Colonel Thomas Westbrook*, 58.
[341] Samuel Penhallow, *History of the Wars*, 99–100; Westbrook to Dummer, June 13, 1724 in Trask, *Letters of Colonel Thomas Westbrook*, 62.

hay so crucial to English husbandry. Father Sebastian Rale who lived among the Kennebecs at Norridgewock complained two years into the war

> …that the English still keep their forts, and the Indian arms not being able to do any thing against them, they remain still masters of the land, and unless the French joyn with the Indians the land is lost. This is what now discourageth the Indians for which reason they have left Norridgewalk fort for to people the villages of Canada

By securing these river spots they secured the region's resources and best discouraged Indian raids.[342]

In August 1724 the English scored the long-awaited triumph over the Wabanaki which had eluded them for nearly half a century. Two hundred men under Captain Johnson Harmon ranged up the Kennebec River, and led by the wife of a slain Wabanaki sagamore, discovered the village of Norridgewock. Shocked Wabanakis were seized by such an "amazing terror" that colonial soldiers observed many paralyzed with a trembling so intense they could not discharge their guns to any effect. The New England men then proceeded to raze the village, emptying their frustration for the previous decades of war on the Wabanki inhabitants, who they slaughtered without mercy. The Kennebec River which abutted the village provided the best avenue of escape for terrified Wabanakis. Those who could desperately rushed towards the riverbank. Unfortunately, Norridgewock, like most Wabanaki

Figure 13 Wabanakis flee into the Kennebec River during British attack on Norridgewock. "The Rebels Reward, or English Courage Display'd," *New England Courant*, Aug. 31, 1724.

[342] Westbrook to Dummer, Apr. 11, 1724 in Trask, 50, 60–61; William Peperell, et al. to Dummer, Apr. 28, 1724 in Trask, *Letters of Colonel Thomas Westbrook*, 54; regarding English Husbandry practices, see Donahue, *Great Meadow*; "Intercepted Letter from Ralle, 1724" in CMassHS 2nd ser., 8:267.

towns, sat beside a waterfall, "which was so rapid and the falls in some places so great, that many of them drowned" after being sucked into the Kennebec's immense power and carried forever out of sight. Estimates put the total killed around eighty. Captain Harmon returned from Norridgewock bearing twenty-six scalps, including that of the Jesuit Priest Sebastian Rale whom the English accused of instigating the war. The New Hampshire historian of the conflict Samuel Penhallow hailed Norridgewock as "The greatest Victory we have obtained in the three or four last Wars."[343] The destruction of Norridgewock decimated the Kennebec band of Wabanakis. Approximately 150 haggard survivors arrived in New France shortly thereafter. To complete the victory Dummer ordered patrols set "adjacent near Kennebeck & Amerescoggin Rivers in Order to surprise ye Enemy It being probable the Corn left in those Parts or the Hunting may have drawn thither some of the Indians that escaped at Norridgewock."[344]

After the "signal victory" at Norridgewock, Governor Dummer pushed Colonel Westbrook to follow it up by attacking the Wabanaki fortress on the Penobscot River. His hope was put the Wabanakis "to the Tryall in the Winter" as they could still be found in their planting grounds since "tho' they may have gathered their Corne" before September "they have not had time to dry it & Carry it away". Instead of progressing from the ocean to the Penobscot village, "the best way to get to their Town undiscovered" was to ascend the Kennebec, bushwhack east through a bewildering wilderness, then descend the Penobscot. Westbrook expressed doubts straying so far from his river forts which supplied his men. The English would have to rely on an

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[343] Penhallow, *History of the Wars*, 104–06; *New England Courant*, Aug. 18, 1724; Westbrook to Dummer, Aug. 18, 1724 in Trask, *Letters of Colonel Thomas Westbrook*, 70–71.

[344] Lettre de Monsieur Le Marquis de Vaudreuil au Ministre, October 25, 1724 in *Collection de Manuscrits Contenant Lettres, Mémoires, et Autres Documents Historiques Relatifs a la Nouvelle France*, (Quebec: A. Coté et Cie, 1884), 3:109–10; Dummer to Westbrook, in Trask, *Letters of Colonel Thomas Westbrook*, 75; Although not nearly as large, Indians maintained a presence in the area until the 1740s. David L. Ghere, "The 'Disappearance' of the Abenaki in Western Maine: Political Organization and Ethnocentric Assumptions," *American Indian Quarterly* 17, no. 2 (Spring 1993): 193–207.

anonymous hostage captured at Norridgewock to guide them. Indeed, Westbrook's guide either by "willfulness or Ignorance" deposited them downriver instead of upriver of the Penobscot village. Venturing away from waterways, even short distances, eliminated the British advantage. The Penobscots survived the conflict unconquered.[345]

Weary of war and seeing little prospect of victory, several bands of Wabanakis sued for peace in the summer of 1725. Before the proper delegates could be assembled for a formal treaty in November, a shaky ceasefire existed east of the Kennebec River. English fears during this uneasy peace were calmed by their knowledge of the Penobscots' "head quarters" on the Penobscot River where they could "easily destroy their corn, and disrest them in their Fishery, which would bring them to a ready composition" if need be. Upon reading the proposed terms of the new treaty, the first thing the Wabanakis asked—to ensure future goodwill—was for the British to quit their forts at St. George and Richmond; a request which they emphasized sagamores of all their tribes had asked them to make. Just as in the 1717 meeting with Wiwurna, the Wabanakis were more immediately concerned with river forts than details about land. Like Samuel Shute eight years prior, Governor Dummer recognized that the river forts were essential for governing the surrounding land and "bridling" the nearby Indians. Consequently, the request to abandon Forts Richmond and St. George was refused. The English delegation promised the Penobscots that "Those Houses at Richmond and St. Georges, will not be used for offence but may be used as Trading Houses." Such a statement exposed Governor Shute's explanation to Wabanakis in 1717 that such forts were built for common protection as yet another lie. The treaty signed that December which secured English rights to the land included a new and important clause. Previous treaties guaranteed colonists a *status quo antebellum* to "former

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[345] William Dummer, *A Proclamation for a General Thanksgiving, October 7, 1724* (Boston, B. Green, 1724); Trask, *Letters of Colonel Thomas Westbrook*, 73, 76.

settlements and possessions within the eastern parts" as before the first conflict in 1675. The agreement ending the Fourth Wabanaki War, known by historians as Dummer's Treaty, was hammered out in three separate signings in 1725, 1726, and 1727. It only protected Wabanaki lands "not by them conveyed or Sold to or Possessed by any of the English Subjects," which lent legal imprimatur to the controversial and open-ended English land titles which started the conflict, and would legitimize land grabs in the years to come. The threatening presence of forts beside crucial river junctures made it plain to Wabanakis that the English were ready and willing to enforce those land claims on the Eastern Country's rivers.[346]

Interbellum

Between 1725 and 1744 the Eastern Country experienced a sustained period of peace not enjoyed in fifty years. The river forts reverted to their antebellum function as trading posts for local Wabanakis as waterpower once again facilitated trade. English colonists, still scattered and relatively few in number, regularly mingled with Indians in their daily lives. The Penobscot Margaret Moxa was a regular fixture at Fort St. George, befriended by Englishwomen who valued her medicinal knowledge of local plants.[347] However, the shadow of five decades of war cast a pall of distrust and resentment on many English and Wabanakis. The Eastern Country's bloody reputation was difficult to shake, warding off hordes of prospective immigrants who were pouring into historically safer colonies such as Pennsylvania.

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[346] Penhallow, *History of the Wars*, 120; At a Conference with the Delegates of the Indian Tribes, Nov. 16, 1725, DHSM 23:197–98; Submission and Agreement of the Delegates of the Eastern Indians, Dec. 15, 1725 in Penhallow, *History of the Wars*, 124; The prior treaty of 1713 guaranteed English rights to land as of "the year of our Lord God One thousand six hundred & ninety-three," which in turn guaranteed "former possessions and settlements going back to 1675. Mather, "Decennium Luctuosum," 85.

[347] David L. Ghere and Alvin H. Morrison, "Sanctions for Slaughter: Peacetime Violence on the Maine Frontier, 1749–1772 in Papers of the 27th Algonquian Conference, David H. Pentland, ed., (Winnipeg: University of Manitoba, 1996), 110–11.

A few episodes bear witness to the anxious climate of this twenty-year peace. The words of the Penobscot Sagamore Laurence Sagouarrab survive in a remarkable document in which he rejected his people's subjugation to the British as articulated in Dummer's Treaty. Sagouarrab accused that British diplomats and translators of intentionally misleading him at the 1727 conference at Falmouth. He denied granting the British additional lands or the right to build forts, saying he permitted "the Englishman to keep a store at St. Georges; but a store only, and not to build any other house, nor erect a fort there." Sagouarrab's words take on an almost aural quality when the document concludes with "What I tell you now is the truth. If, then, any one should produce any writing that makes me speak otherwise, pay no attention to it, for I know not what I am made to say in another language, but I know well what I say in my own."[348] The peace between Wabanakis and British in the Eastern Country obscured their fundamental disagreements on sovereignty which continued to boil under the surface.

Residents of Brunswick described the leery state of Indian relations in a 1737 petition to Governor Jonathan Belcher. After a decade without war, politicians in Boston sought to decommission Fort George at the Androscoggin River's Pejepscot Falls, the same fort which caused so much trouble after its construction in 1715.[349] The people huddled around the fort in Brunswick and Topsham protested their colony's assessment. They described Indian neighbors "who look upon us, as unjust usurpers & intruders upon their rights and priviledges, and spoilers of their idle way of living." Despite begrudgingly accepting English land titles, Wabanakis apparently still claimed "not only the wild beasts of the forest, and fowls of the air, but also fishes of sea & rivers," casting a particular "ill eye…upon our salmon fishery, and no doubt would disturb our fishers weren't not under the imediate protection of the fort, as several can

[348] Indian Explanation of the Treaty of Casco Bay NYCD 9:966–67.
[349] MHJ 14:186, 15:33; AR 13:474, 612, 15:344.

witness who have fished in undefended places." Wabanakis interpreted treaties surrendering land to the English as only restricting them from the crops and livestock behind English fences. They displayed little inhibition killing the animals, walking the trails, or cruising the water that happened to travel through that land, and which were essential elements of their mobile lifestyle. Treaties protected these usufruct rights. When Wabanaki Sagamores in 1699 invited the English to reoccupy "their former rights of Lands possessions and improvements" they made the stipulation "that all Fishermen improve and enjoy the Fishery…as they have been anciently accustomed." The final draft of Dummer's Treaty in 1727 also guaranteed "the Priviledge of Fishing, Hunting, and Fowling as formerly." The experiences of Brunswick settlers attest to the fact that Wabanakis were not willing to surrender or share their favorite fishing holes. Fortunately for colonists, Fort George provided an important peacetime service of ensuring a toehold on one of the Androscoggin River's premier fishing spots.[350]

Fifth Wabanaki War, 1744–1749

Obscure political events in Europe once again destroyed the carefully built peace in New England just as it had in 1702. In 1744 a web of entangling alliances drew France and Britain back into war—the conflict originated in a succession dispute to the Austrian throne. Besides small raids occurring in "spasmodic" frequencies, the conflict lacked the dramatics which had for so long characterized the region. New Englanders focused their military forces on Nova Scotia and their western frontier with New York. Still recovering from their 1724 defeat at Norridgewock, the Kennebecs lacked the strength to dislodge British settlements as they had

[350] Petition of the Inhabitants of Brunswick about Fort George, Apr. 25, 1737, Box 6 Folder 4, Pejepscot Proprietors Papers, Maine Historical Society, Portland; Memorial of Sagamores, Sept. 8, 1699, DHSM 23:27; CMeHS 1st ser., 3:418.

done so many times past. Forts played their role of preserving hard-fought English territorial gains by keeping Wabanaki raiding parties off their preferred riverine attack avenues. Much like in earlier wars, most Penobscots saw little benefit in wading into the conflict, although many participated in raids against the English to settle long-simmering neighborly scores. The Penobscots clung to their neutrality, and after the war remained unconquered, sovereign, and a formidable threat to the British Empire. In a significant side note, war dragged on in the Eastern Country one year after the Treaty of Aix-la-Chapelle formally ended hostilities between the British and French in 1748. When scheduling a peace conference in September 1749, Penobscot Sagamores pushed the meeting back one month for the all-important reason that they were "in the height of our hunting" and "fishing for Eals" in the rivers. The fall eel spawn going into winter was just as important as spring fish runs coming out winter. Wabanakis needed to capitalize on these seasonal protein calories if they expected to survive the year. In the end, Wabanakis risked bloodshed because missing the eel run had the same effect as a musket ball fired from a British gun.[351]

Interbellum

Peace in 1749 brought with it opportunity. Inheritors of the 1629 Plymouth Patent formed an association called the Kennebeck Proprietors in 1749 to settle lands further up the Kennebec Valley. These men sought to replicate the earlier success of the Pejepscot Proprietors, who owned the land to their south. The Kennebeck Proprietors' claim extended north from Fort Richmond approximately fifty miles up the Kennebec River. When the Treaty of Aix-la-Chappelle secured peace between France and Britain in 1748, it effectively isolated the

[351] Williamson, *History of the State of Maine*, 2:234–59; Loron et al. to William Shirley, Sept. 4, 1749, DHSM 23:320; Hardy, *Notes on a Lost Flute*, 65–66.

Wabanakis from military support. Coupled with their recent military conquest of the Kennebec tribe at Norridgewock, the English felt confident enough to assert their distant and obscure land claims to essentially all Wabanaki territory on the Kennebec. The English had not mentioned these claims to Wabanakis in previous treaties, and the sudden announcement of their existence at a conference in 1753 came as a complete shock to Indian leaders. Wabanakis understood Dummer's Treaty of 1725 to limit English settlement "as far as the salt water flowed, and no further." As in the past, Massachusetts commissioners met these protests with silence, and essentially dared the Wabanakis to resist.[352]

Settlers did not flock to the Eastern Country in response to the opening of these new tracts. Despite the doubling of New England's population every 28 years and the concomitant declining availability of land in southern New England, only the reckless considered settling on the Kennebeck Proprietors' claim. Prospective immigrants recognized that their habitations would sit beyond the extremity of British protection at Fort Richmond. In the very high probability that Wabanakis hostile to their arrival attacked, there would be nowhere to hide, and little chance of escaping with their life. New Englanders had seen the gruesome consequences of running such risks in the Eastern Country too many times. Eager to turn a profit on their claim, the Kennebeck Proprietors began importing land-hungry "Foreign Protestants": Europeans of German or French extraction who were happily ignorant of their status as fodder in the proprietors' colonization scheme.

The Kennebeck Proprietors named the first township Frankfort, referencing many of their settlers' German origins. Fifty-four men initiated settlement by spending the early months of 1752 constructing a palisade fort "as is Customary in the Eastern Parts." Fort Frankfort held no

[352] CMeHS 1st ser., 2:274.

strategic value besides being a refuge from Indian attack, and lay vulnerable to a prolonged siege. Past experiences in the East had shown the Proprietors that their garrison structure was only a temporary security measure, and that the best way to protect their settlements was to erect river forts of an offensive nature further up the Kennebec. Since at least 1751 proprietors hoped the Massachusetts General Court would offset the costs of such an effort, just as was done for the Pejepscot Proprietors. The lack of immediate dangers failed to sway legislators.[353]

Seven Years' War, 1754–1759

Then in March 1754 an alarming rumor walked out of the woods. Intelligence reached Massachusetts Governor William Shirley via Kennebec Indians that the French had settled at the "Great Carrying Place," a fifty-mile portage connecting the Kennebec and Chaudière Rivers which flowed almost directly to Quebec City. Both the English and French colonies had long known that if an overland invasion was coming, the only practicable routes were the Lake Champlain-Hudson or Chaudière-Kennebec corridors (the 1775 Patriot invasion of Canada would follow both). The Great Carrying Place was conveniently interspersed with several lakes and streams making it ideal for those lugging either an Indian-style canoe or European whaleboat. Native Americans had frequented the Great Carrying Place for generations. But as it was located deep in the interior, the distance and terrain of the portage was only vaguely understood by Europeans. Fort Richmond's commander William Lithgow further reported that an insolent band of Wabanakis visited the fort and threatened to attack "as soon as the Rivers

[353] Kennebeck Committee to Paschal Nelson, May 11, 1752, Loose Papers, Kennebec Proprietors Papers, Maine Historical Society [Henceforth KPP]; Samuel Goodwin worried a nearby hill overlooking Fort Frankfort would give invaders an easy advantage. Bound Volumes, Records 1753–1768, 10, KPP; Bound Volumes, Records 1661–1753, 106, KPP.

should be free from Ice."[354] This disturbing news from the frontier arrived on the heels of the shocking development that the French were constructing forts in western Pennsylvania. In April, New Englanders learned the French had scared off British soldiers at the Forks of the Ohio River, and were underway building yet another fort there. Additionally, Acadian insurgents had since 1749 built two forts just across the Maine border on the St. John's River. There were many reasons to take the rumors of a French advance up the Chaudière seriously in the spring of 1754.

Just like Edmund Andros in 1688, Governor Shirley proposed leading forces up the Kennebec, this time to purge it of trespassing Frenchmen. His speech to the legislature emphasized the importance of securing "Possession of this important River." Shirley proposed building a fort at the Kennebec's headwaters "to put the River in their Power" which would "Rid the Incroachments" of the French, and "hold the latter [Indians] in a due Dependance upon Us, Or Oblige them to Abandon the River." The legislature agreed to fund the expedition, and Shirley planned to meet with the local Kennebecs to prevent any misunderstandings, "As it could not be doubted but that the building a new fort, and making the propos'd march to the head of the River and extending the English Settlements upon it would be very disagreeable to the Indians."[355]

The voyage from Boston to the Eastward ran into a howling southeast gale, "the Most Violent Storm that Ever Was Known att that time of year," and the wind-tossed seas made "almost all of them Sea Sick." When Shirley's expeditionary force dropped anchor at Fort

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[354] *Voyages of Samuel de Champlain*, trans. Charles Pomeroy Otis (Boston: Prince Society, 1878), 2:60; William Shirley to the General Court of Massachusetts, Mar. 28, 1754 in Charles H. Lincoln, ed., *Correspondence of William Shirley* (New York: MacMillan, 1912), 2:33–34.

[355] *Correspondence of William Shirley*, 2:37–38; There is good circumstantial evidence that the elite men which composed the Kennebeck Proprietors pushed Shirley into pursuing an expedition up the Kennebec for the purpose of building forts. When Governor Shirley's speech declared his intentions on Apr. 19 of embarking on a fort building expedition, sixteen days earlier the proprietors preemptively resolved that if Massachusetts were "to build a Fort at Taconett upon Kennebeck River," then they would build a supply fort at Cushnoc. Bound Volumes, Records 1753–1768, 57, KPP.

Richmond, they found the Kennebec Indians opposed to Shirley's plans. The Kennebecs held to their position that Dummer's Treaty in 1725 limited British territory to below Fort Richmond, or only "as far as the salt water flowed." The diplomatic impasse was reminiscent of the confrontation between Governor Shute and Wiwurna thirty-eight years earlier. But the scales of power had shifted in that time, allowing Governor Shirley to be much more forthright about his acquisitive intentions to the Wabanakis: "I told them I did not ask their Consent to the building the new fort, or extending the English Settlements upon the River Kennebeck…That all Princes had a right to build forts for the protection of their Subjects within their own Territories as they pleas'd." Shirley reiterated Massachusetts' position articulated the year before that by right of sale and conquest the English owned all the land along Kennebec River. The Wabanakis sitting on the bank of the Kennebec that day must have eyed at least a handful of the eight hundred soldiers arriving with Shirley and compared it to their own numbers, which probably amounted to around forty fighting men.[356] Some of the older warriors must have passed Fort Richmond in their canoes on the way to the conference and remembered back to their failed sieges of that place, and how that edifice had thirty years ago robbed them of their fishing grounds, portages, and supplied endless English reinforcements from the ocean who kept them always on the run. They must have realized the futility of resistance. Shirley's direct, uncompromising words showed he realized it too.

Governor Shirley had several options on where to locate a new fort to put the Kennebec River "in their Power." Following a precedent going back to Andros, his decision had everything to do with controlling the river's food and mobility, which was the tried and true strategy for

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[356] "John Barber's Journal," *New England Historical & Genealogical Register* 27 (1873): 283; AR 15:144–5; William Shirley to the Lords Commissioners, May 23, 1754, *Correspondence of William Shirley*, 2:69–70; William Shirley to Sir Thomas Robinson, Aug. 19, 1754, Ibid., 2:74, 77; Joseph Blanchard and Samuel Langdon, *Map of New Hampshire* (London: Thomas Jefferys, 1761).

"bridling" Indians. The first and most obvious choice for a fort was at the Great Carrying Place, but that was one hundred miles from Fort Richmond and would be impossible to supply. The Kennebeck Proprietors likely hoped Shirley would place the new fort near the northern edge of their claim at Norridgewock Falls, sixty miles from Richmond and the site of the Wabanaki village destroyed in 1724. Ultimately, the Governor selected Ticonic Falls, only thirty-five miles from Fort Richmond. The Kennebeck Proprietors placed a fortified store house at rapids called Cushnoc to supply the planned fort at Ticonic because the Kennebec's shallowing depth required transferring supplies onto smaller boats.[357]

Little stood at Cushnoc or Ticonic in 1754, but their names gave hint to their ancient significance for Native peoples. Both were major portage and fishing spots, making them natural places of human activity. Seafaring Indians had to dismount at the Cushnoc rapids, meaning "head of the tide," before ascending into the Dawnland's interior. Ticonic Falls, which, as its Wabanaki name "where they cross" suggests, was especially important because it lay at the intersection of two major portage routes. First, the falls at Ticonic were the next significant obstruction to navigation after Cushnoc for those paddling north-south. Second, Ticonic lay at the confluence of the Kennebec and Sebasticook Rivers, which was a terminus for the primary east-west route in the Dawnland. Canoeists going east turned off or waded across the Kennebec at Ticonic to follow its tributary the Sebasticook to a carrying place leading into Souadabscook Stream which spit travelers out into the mighty Penobscot River. The Sebasticook's name means "the short route," evincing Indians' preference for that thoroughfare. Indians from the Bay of Fundy to the St. Lawrence River passed around the Ticonic Falls in their travels. For these reasons Cushnoc and Ticonic were populated by hundreds of Wabanakis before disease and

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[357] Gordon E. Kershaw, *The Kennebeck Proprietors: Gentlemen of Large Property and Judicious Men* (Somersworth: New Hampshire Publishing Company, 1975), 127–28.

warfare pushed them north. In fact, when Plymouth colonists put trading posts on the Kennebec, they placed them at Cushnoc (1628) and Ticonic (1654) precisely because they knew that was the best place to encounter passing Indians willing to exchange pelts for a variety of European goods and weapons.[358]

Shirley's expedition constructed the new fort at Ticonic over the spot of the old Plymouth Company trading post. Like the Pejepscot Falls before it, the English had learned that these riverine convergence spots were not only good places to trade, but also the ideal vantages to exert dominion. When the cannons of the new fort were ceremoniously fired for the first time, onlooking Kennebecs were reported to "behave very civily, and seem well satisfied with our Proceedings" and even joined in drinking to "his Majesty's Health." They had few other options.[359]

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[358] These Indian communities are both likely referred to by Richard Hakluyt in 1602. Not including women and children, Cushnoc (Kennebeke) had 100 men, Ticonic (Ketangheanycke) 330 men. Purchas, *Hakluytus Posthumus*, 19:403–04; David S. Cook, *Above the Gravel Bar: The Native Canoe Routes of Maine* (Solon, Maine: Polar Bear, 2007), 59–61; Daniel J. Tortora, *Fort Halifax: Winslow's Historic Outpost* (Charleston, S. C.: History Press, 2014), 11–12.

[359] "John Barber's Journal," 284; *Boston Evening Post*, Aug. 5, 1754.

A detachment of five hundred soldiers climbed the Kennebec River to the Great Carrying Place, entirely expecting to encounter French soldiers, or worse an enemy fort. Instead they found nothing. A rerun of the hysteria that consumed Boston in 1687, the 1754 rumors of a French incursion were just that. In an effort to save face, Shirley sailed from Boston to visit the two new forts personally, and asserted that their construction would prevent any future attempts of a French advance on the Kennebec. In a ritual to symbolize conquest, Shirley gave the English name Halifax to the fort at Ticonic. The Kennebeck Proprietors showed their thanks by awarding Shirley a full share in their enterprise.

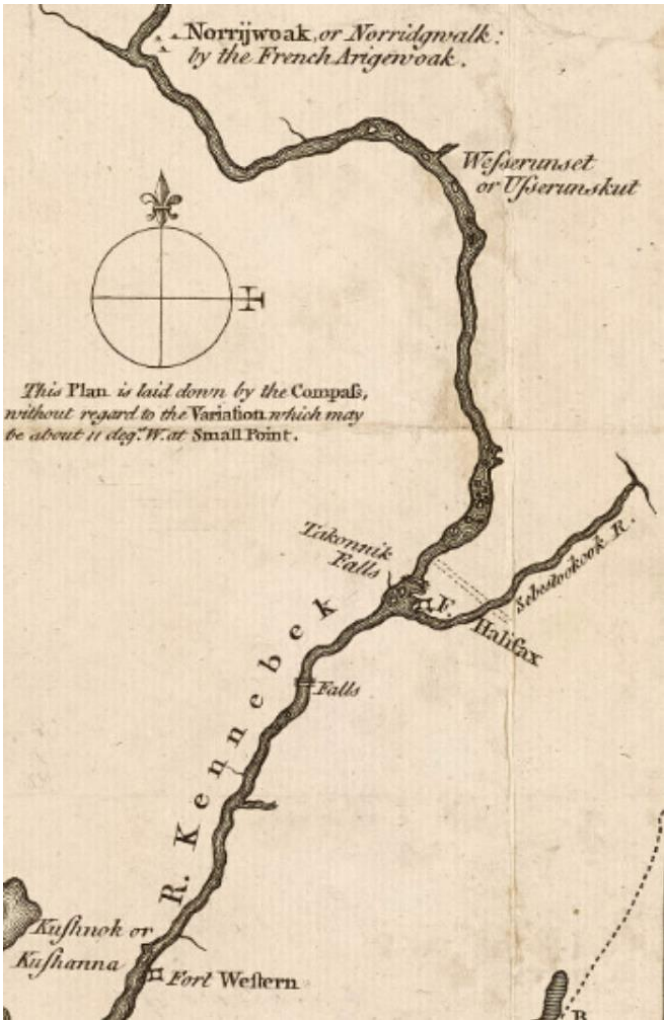

Figure 14 Location of Norridgewock and Forts Western and Halifax. Johnston, *Plan of Kennebek.*

Political critics accused the governor of manufacturing the crisis to further settlements upriver to fill the pockets of his elite friends who were members of the Kennebeck Proprietors. A pamphlet likely written by James Flagg ridiculed Shirley by comparing his Kennebec expedition to Don Quixote's duel with a windmill. Yet, the *Boston News Letter* lent its approval, even composing two paeans to Governor Shirley upon his return to the city. The first referenced the Fourth Wabanaki war in 1722, and specifically the English claim that the war had been started by "Sly Jesuits" such as Sebastian

Rale, who they still believed (incorrectly) was taking orders from the French King. The lyrics also mention what New Englanders considered to be the primary cause of that conflict, the construction of Forts George and Richmond: "They wou'd not let us build our Towers | No, tho' the Land was our's | They claim'd it for their own." Although by most clear-eyed accounts Shirley's 1754 expedition had been an embarrassing debacle and serious waste of money, the paeans provide insight into the psychological value people saw in the new forts: "At Cushnoc, and elsewhere our Towers | Erected, shall curb Gallic Power | And chase away our Fear" to "give us room to plant and sow | And where we please reside." It is important to note that Fort Frankfort was not mentioned in the paeans, suggesting it did not create this sense of security for settlers. The last forty years had shown ordinary people that only battlements erected at strategic river sites such as Forts George, Richmond, Western, and Halifax thwarted Wabanaki attacks. Shirley's Expedition failed utterly to accomplish its immediate aim of finding Frenchmen, but it did ensure Massachusetts' long-term aim of making the Eastern Country a British place.[360]

The construction of Fort Pownall at the mouth of the Penobscot River in 1759 is seen by most historians as the symbolic end of the Indian wars in the Eastern Country, and the end of Wabanaki autonomy in the region. Considering the Eastern Country's bloody history, it is strange that no serious violence (or rumor of violence) precipitated Fort Pownall's creation, or followed upon its completion. The Penobscot tribe participated off and on with other Wabanakis to resist British expansion over the previous ninety years. Unlike the Kennebec or Peqauwket Tribes of Wabanakis to their west, English expansion did not seriously threaten Penobscot territory until 1719. Once it did, Penobscots more enthusiastically joined the Western Wabanakis

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[360] *The Strange Account of the Rising and Breaking of a Great Bubble* (Sagadahock River, Maine, 1767), 8; *Boston News Letter*, Oct. 3, 1754; *Boston News Letter*, Sept. 26, 1754; Kershaw, Kennebeck Proprietors, 131–34.

in their struggle. While the Kennebecs suffered a crushing defeat at Norridgewock in the ensuing Fourth Wabanaki War, the Penobscots remained undefeated in their homeland.[361] Governor Shirley could not claim British right to Penobscot land by right of conquest as he had to the Kennebecs before constructing Fort Halifax. However, the completion of Fort Pownall would signal the effective British conquest of the Penobscots by establishing control of the Penobscot River.

Following the embarrassing pseudo crisis on the Kennebec River in 1754, the Eastern Country lay uncharacteristically quiet as the French and British death-struggle raged around it. However, New Englanders could see the storm clouds just beyond their eastern borders on the St. John's River in present-day New Brunswick. Acadians and Maliseet Wabanakis refused to pledge allegiance to King George, and in open defiance built two forts on the St. John's in 1749 and 1751. This insurrection prompted an invasion by 1,150 British soldiers in 1758. That force built Fort Frederick at the mouth of the St. John's that year. William Shirley anticipated in 1754 the riverine strategy which would conquer the St. John's region, writing that since it was "impracticable to transport military stores or Provisions down this [St John's] River, the reduction of the new French Fort [upriver] would be an easy conquest."[362] Because overland travel from the St. Lawrence Valley was so incredibly onerous compared to water, the easiest way to wrest control of the river from the French was to place a fort at the entrance of its only water supply route—the mouth of the St. John's River.

The events on the St. John's River immediately made British officials concerned about the possibility of a similar development occurring to the west on the Penobscot River, which lay unfortified. Governor Shirley first proposed building a fort at the mouth of the Penobscot in 1748

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[361] CMeHS 1st ser., 3:377–405
[362] William Shirley to Sir Thomas Robinson, May 8, 1754, *Correspondence of William Shirley*, 2:66.

as “a Means of keeping them [Indians] from the Sea Shore, which at certain Seasons they repair for Fishing and Fowling, on which their Subsistence for a considerable Part of the Year depends.” Nearby Fort St. George had stood for forty years guarding a small river of the same name. Built by the Lincolnshire Proprietors to defend their initial settlers and facilitate the insertion of troops, the fort was conspicuously not built on the Penobscot River, by far the most important waterway in the region and the eastern boundary of the proprietors’ claim. Proprietors and Massachusetts officials both knew that doing so would provoke the Penobscot Tribe, who still held the numbers to dislodge English settlements in their vicinity. Additionally, the Penobscots had striven hard to be on friendly terms with the English since Dummer’s Treaty in the 1720s. When trying to stamp out Indian raids in the Eastern Country, Massachusetts rewarded Penobscot loyalty in 1755 by declaring war on “Arrassagunticook Tribe of Indians, and all the Tribes of Indians eastward of Piscataqua River, the Penobscot Tribe only excepted."[363]

Tragedy would make avoiding war with the Penobscots impossible. In responding to the opening of hostilities, James Cargill organized a scalp posse sanctioned to pursue Wabanaki tribes at war with Britain. Instead of going north toward those tribes, his posse turned east into territory inhabited by the neutral Penobscots. On July 2, 1755 Cargill and his men illegally murdered and scalped twelve Penobscots. The medicine woman Margaret Moxa, her young child, and husband were among the victims. The actions of Cargill’s men enraged local settlers who refused to supply his posse, forcing them to disband. Such a gross affront to the peace likely pushed some Penobscots into violent resistance. Others refused British offers to live near the protection of Fort St. George. The example of Margaret Moxa and her family convinced Penobscots that British promises of protection were not worth trusting.[364]

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[363] MHJ 25:12, 32:52.
[364] Ghere, “Sanctions for Slaughter,” 109–11

Wabanaki raids in the vicinity of Penobscot territory raised suspicions of Penobscot involvement among Massachusetts officials, who were fast losing a handle on the situation. Penobscots tried to maintain their neutrality, stubbornly refusing to provide troops for the British war effort. Finally in November 1755 Lieutenant Governor William Phips issued a scalp bounty on Penobscot men, women, and even children.[365] The 1755 scalp bounty made Britain's intentions clear. Their long policy goal of dispossessing the Eastern Country's Native peoples to make room for colonists no longer needed to be concealed. When William's Shirley revived the idea of building a fort on the Penobscot River in 1756 he cited rumors of the Penobscots being recently hit by a smallpox epidemic, saying that such a "Circumstance may tend much to facilitate the Enterprise." Shirley's successor Thomas Pownall described the area where his fort was later built as "a Den of Savages, and a lurking Place for some Renegadoe French" and that if left unfortified would remain "a Thorn…in the Side of this Province."[366] Penobscot loyalty counted for little.

Historians have seen the location of Forts Frederick and Pownall at the mouths of the St. John's and Penobscot Rivers as a British attempt to shut the Indians off from the ocean. The rhetoric surrounding their construction supports this claim that they defended saltwater. In his justifications for building his eponymous fort, Thomas Pownall reasoned that "As the Crown has taken Possession of and Fortifyed St. John's River, the Enemy have now no Out-let to the Sea, but thro' this River Penobscot, the Door being shut upon them in every other Part." This nexus of river and ocean routes in Penobscot Bay was the "Outlett" and "Rendezvous, of the Eastern Indians when they come against our Frontiers." But considering Fort Pownall as simply

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[365] MHJ 32:451–52; Ian Saxine, "The Performance of Peace: Indians, Speculators, and the Politics of Property on the Maine Frontier, 1735–1727," *New England Quarterly* 87, no. 3 (2014): 379–411; AR 3:948; *A Proclamation*, Nov. 3, 1755 (Boston: John Draper, 1755).
[366] MHJ 32:451; Ibid., 36:9; Ibid., 35:239.

defending "the only Door that the Enemy had left to the Atlantic" overlooks its offensive purpose. The long trajectory of fort construction in the Eastern Country bears out that river forts supplied and garrisoned soldiers for ranging up rivers and across Indian carrying places. Besides defending the "door" to the ocean, Fort Pownall stood as a visible warning to the Penobscot people that any insurrection would be efficiently, and relentlessly pursued upriver.

When an army led by Governor Thomas Pownall arrived in Penobscot Country in May 1759 to build the fort, they stumbled upon some Penobscot Indians. Pownall had them detained. He soon had them deliver a message to their people. The tone of Pownall's message was nearly identical to Shirley's declaration of supremacy to the Kennebecs before erecting Fort Halifax five years earlier. Pownall gave the messengers a red flag and bid them to

> "Tell your People that I am come to build a Fort at Penobscot, and will make the land English. I am able to do it—and I will do it. If they say I shall not, let them come and Defend their Land now in time of War … if ever there be an English man kill'd by your Indians—You must all from that hour fly from the Country. For I will send a number of Men on all sides of the River, sweep it from one end to the other, and hunt ye all out."

Pownall then gave a white flag to the Penobscot messengers, inviting their people to "come and be English," to live under English laws, and settle under the new fort's guns.[367]

As the startled Penobscot hostages left the meeting "and made for the Carrying place" across the Penobscot River, Pownall followed them and built his fort there. Penobscots referred to this point of land jutting into the river as Aquahassedik, or "landing place," where they etched information on the rocks of who they were, and the direction they were heading. If they wanted to cross or move on that river there again, it would be under the gaze of British cannon. Aquahassadik would henceforth be a British communication center, not a Penobscot one. Pownall then sailed to the first falls on the river and "Buried a Leaden Plate" with the inscription

[367] CMeHS 1st ser., 5:376–77.

"Province of Massachusetts Bay. Dominions of Great Britain.—Possession confirmed by T. Pownall." A flag pole was hoisted in view of the falls, where they raised the King's Colors, and saluted. There seemed no better place to enact such rituals of sovereignty than at a waterfall. Fort Pownall—shortly named thereafter by the legislature for the Governor—was completed in July but never saw action. The silence of its cannons belied the fort's significance. For the Penobscots had given up the river without a fight, and as consequence forfeited any practical ability to resist, and with it the rights to their lands as well. Only six months after Fort Pownall's completion, Governor Pownall happily reported that "There are a great many Families stand ready to go down to Penobscot." He recommended to the Massachusetts' General Court "that now every other Obstacle is removed, that no Incertainty in the Titles of the Grants they have, may be any Obstruction to Settlements." Within the month, the legislature authorized the surveying of lands all the way to the St. Lawrence River. As Pownall's words attest, the legality of British title to land was a secondary concern. With British control of the lower Penobscot River secured, New England's conquest of the Eastern Country was now complete.[368]

Pownall's threat to the Penobscots "I will send a number of Men on all sides of the River, sweep it from one end to the other, and hunt ye all out" would have been nearly impossible to carry out logistically without a fort nearby. Thomas Westbrook's failure to subdue the Penobscots in 1724 illustrated that very fact. Following the end of the Seven Years' War in 1764, Massachusetts Governor Francis Bernard warned the legislature that the Wabanakis "are still capable…to depopulate a fine growing Country, for one Hundred Miles length of Coast" but importantly were "not so powerful as to be able to maintain a War with this Province." If such a

[368] CMeHS 1st ser., 5:377, 383; Fannie Mae Eckstorm, "The Indian place-name Wasaumkeag," Speech at Bangor Historical Society, Jan. 1932, Box 2, Folder 32, Eckstorm Papers, Raymond H. Folger Library Special Collections, University of Maine, 2–3; MHJ 36:129; AR 16:691.

war came, Penobscots would struggle to live off what little land was spared from the gaze of British patrols while their enemies imported food and men from the distant reaches of their empire. Unlike garrisoned houses or walls stitched around colonial settlements, river forts were designed primarily to keep Indians low on food and without rest or refuge. With English supplies and men being constantly guided up the rivers, the Wabanakis were destined to be the first to run out of energy, or "out of Breath…against an Ever-approaching...Adversary."[369]

Conclusion

If one were walking through the Eastern Country during these war years, the best way to understand power in the region would have been to visit the falls of a sizeable river and look at who was fishing or paddling nearby. When Wabanakis governed the region, their palisades stood at the rivers' edge, sometimes accompanied by an English or French trading post, supplying (or subsidizing) them with goods at below-market prices. By the 1720s, British forts, often not immediately surrounded by settlers, marked their assertion of dominion there. If one traveled up the Kennebec or Penobscot at that time, palisaded Wabanaki villages would have still crowded around the spume of these waterfalls. Whoever lived beside these places of rushing water could control the flow of food and mobility for miles beyond them. Those standing by these sites of rushing water could exert their vision of the world on others.

The near century of Anglo-Wabanaki conflict in the Eastern Country was not fought with large battles, or to hold plots of land. It was fought to control rivers. The Wabanaki style of warfare relied on mobility to quickly strike unsuspecting or unprepared opponents with devastating effect. Early English settlements were isolated or only loosely connected by shoddy

[369] Governor Francis Bernard to the Council and House of Representatives, June 5, 1764, MHJ 41:29; MHJ 35:239; Ibid., 36:9; Journal of the Voyage of Gov. Thomas Pownall, CMeHS 1st ser., 5:376.

roads. Their wooden walls and garrisoned houses repeatedly failed the English in the first three conflicts as victorious Wabanakis successfully rained terror and destruction on them. When the colonists finally marshalled forces to counterattack, Wabanaki forces seemed to melt into the forest.

Beginning with Edmund Andros, the English switched their defensive strategy to holding crucial river sites—waterfalls and rapids where Indians fished, where they had to clumsily portage their canoes, and where the richest soil was found. These river forts defended colonists not by providing them refuge, but by harrying Wabanakis. At the turn of the eighteenth century, English fortifications began moving from beside settlements to beside waterfalls or other strategic river points. Instead of trying to locate and destroy Wabanaki armies, the English began patrolling rivers to keep them from gathering food or moving undetected. Wabanakis understood the relationship between maintaining their access to rivers and keeping their sovereignty. Throughout the many treaties and conferences during this violent period, Wabanakis would cede land claims to the English (which the former knew they usually could not enforce) while refusing to budge on their people's traditional right to use the rivers. When the English began building forts during peacetime at crucial river locations, Wabanakis vociferously resisted, eventually to the point of starting a war in 1722. After their defeat in 1725, many Wabanakis held on to their sense of autonomy, what one Penobscot told Governor Thomas Pownall in 1759 as being "Brethren, but not Subjects of the King."[370] But after 1725 the Wabanaki could not prevent the English from building river forts. The unopposed construction of Forts Halifax and Pownall in 1754 and 1759 destroyed any practical notion of Wabanaki sovereignty. For, once perched on their river vantages, the British could rule.

[370] CMeHS 1st ser., 5:372.

PART III: CONCENTRATED POWER

Chapter 5: Starved: How Indians Lost their Rivers

"[W]e desire that the *English* may not have the sole Advantage, for by their setting their Nets, it prevents the Fish running up the River, for the Use of the *Indians.* We desire that both English and Indians may have the Benefit of the Fish." Loron Sauguaaram, 1732

"That the number of Indians in this place, as well as others…has been diminished from time to time, and is now greatly lessened, is well known, and cannot be disputed. This diminution, I apprehend, is not to be considered as originating in, or confined to, any one single cause; but as arising from a concurrence and co-operation of several. Which of them has been the most predominant one, I shall leave to others to determine." Stephen Badger, 1797[371]

The wars Indians fought to maintain their independence all eventually came to a disappointing end for all New England's indigenous peoples. In southern New England that came after King Philip's War in 1676.[409] In northern New England that date came much later. Many Indian peoples in places like southern New Hampshire simply fled to escape colonial advancement and Iroquois raids. Wabanakis in western Maine held onto their independence from Britain until 1729. Wabanakis in eastern Maine and Vermont were able to control their own destiny until the fall of New France in 1759. During the entire war period Indians fled to safety, whether that was New France or Indian communities farther away from the encroaching colonial state. For those who chose to remain under British jurisdiction, or "behind the frontier," new strategies needed to be adopted to maintain autonomy as a distinct people.

Native American survival strategies revolved around maintaining traditional rights to the environment. Retaining access to the diffuse properties of river energy, specifically fish, lay at the center of these strategies. Since the Native peoples of New England were far from

[371] CMassHS 5:34
[409] The Mohegans in Connecticut being a major exception.

monolithic, and their regional contexts varied widely, their waterpower strategies also differed. Indians in northern and southern New England will be investigated separately. Regardless, all Native people placed great importance on the seasonal fish runs which pulsed every year up the region's waterways. Whether in Connecticut, Massachusetts, or Maine, Native peoples interpreted access to rivers as intimately tied to their property rights and fought vociferously within the colonial legal system to ensure their continuance.[410]

Native American efforts to preserve the open, diffuse energy dynamic of rivers ran into a major problem in the early eighteenth century: dams. As colonial population ballooned, colonists needed more waterpower to accomplish labor on their farms. Across New England, colonists not only erected more dams, but taller dams as well. These structures irrevocably altered New England's riverscapes. Instead of turgid, fast moving rivers, New England's waterways moved at a staccato pace, alternating between the slack, impounded water above dams, and very fast water below dams. Such an alteration to a river's hydrology disrupted the distribution of sediment and altered the temperature of water. These changes to river habitat affected the biota in, on, and adjacent to rivers. Although dams had existed since the seventeenth century, they were less numerous and usually low enough or powered by a small enough stream that they did not seriously disrupt the flow of fish and silt up and down the region's waterways. In contrast, these early eighteenth-century dams crossed all but the largest rivers.

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[410] O'Brien, *Dispossession by Degrees*; Colin G. Calloway, ed., After King Philip's War: Presence and Persistence in Indian New England (Hanover, N. H.: University Press of New England, 1997); Daniel R. Mandell, *Behind the Frontier: Indians in Eighteenth-Century Eastern Massachusetts* (Lincoln: University of Nebraska Press, 1996); Calloway, *Western Abenakis*; David J. Silverman, *Faith and Boundaries: Colonists, Christianity, and Community among the Wampanoag Indians of Martha's Vineyard, 1600–1871* (Cambridge: Cambridge University Press, 2007; Linford D. Fisher, *Indian Great Awakening: Religion and the Shaping of Native Culture in Early America* (Oxford: Oxford University Press, 2012); Amy Den Ouden, *Beyond Conquest: Native Peoples and the Struggle for History in New England* (Lincoln: University of Nebraska Press, 2005).

Whether through conscious effort or willful neglect, the New England colonies and British imperial officials failed to protect Native American access to river fish. Treaty agreements ensuring access to fishing grounds were not observed. Fishways that were mandated by colonial law were not built. Unsustainable colonial river fishing practices, which were often as injurious to Indians as dams, were not regulated. The colonial state knew that sapping rivers of their life-giving energy acted as a powerful agent of dispossession on Native peoples. The loss of river fish encouraged Indians to sell their land, enter dependent economic relationships under Europeans, or migrate elsewhere. Although Native rights to river fish were frequently guaranteed in treaties, they were hard to enforce because those fish were not easily defined in the British property regime. Whereas forms of property such as cattle could be branded, illegally netted fish were indistinguishable from an honestly-netted catch. Similarly, just as land could be fenced, and trespassers easily espied, anadromous fish, besides being invisible underwater, they inhabited rivers—spaces which were a legally defined as commons in British common law. The slippery legal categories river fish slid through made it quite difficult to both enforce the laws designed to protect them and litigate offenders. Furthermore, local enforcement of law in colonial New England enforcement was spotty at best. Justices of the peace subjectively enforced the law, if at all.[411]

Southern New England

[411] Anderson, *Creatures of Empire*; On British law in colonial America being biased toward propertied classes, see Richard Bushman, *King and People in Provincial Massachusetts* (Chapel Hill: University of North Carolina Press, 1992); Keith Wrightson, "Two Concepts of Order: Justices, Constables and Jurymen in Seventeenth-Century England," in *An Ungovernable People: The English and Their Law in the Seventeenth and Eighteenth Centuries* eds. John Brewer and John A. Styles, (New Brunswick, N. J.: Rutgers University Press, 1980), 24–26.

Native American political autonomy ended for Indians living in Massachusetts, Rhode Island, and Connecticut after their crushing defeat in King Philip's War in 1676. The defeated survivors were enslaved, fled, or kept a low profile, usually in economically dependent relationships to colonists. However, the colonial victors granted amnesty to the Indian converts to Christianity, often known as Praying Indians, who in the late war sought refuge with the colonists from Metacom and his allies. As thanks, Massachusetts preserved land for these Indian communities from Nantucket to the New Hampshire border. To safeguard these enclaves against predatory colonial neighbors, Praying Indians owned their land in corporation to prevent sale to outsiders. Yet by the 1790s many of these communities had all but disappeared. In Natick, originally one of the largest of the Praying Indian communities, there were only twenty-some "clear blooded" Indians in the town, a decline from 180 in 1749.[412]

The ultimate failure of the Natick Indian community, among others, to remain "behind the frontier" in New England can largely be understood by looking at their interactions with river energy. Preserving access to waterpower in the form of fish was central to their strategy to preserve their distinct lifeways within an English political system. Several Praying Indian communities such as Hassanamisco on the Blackstone River and Natick on the Charles were likely selected because of its several convenient fishing and mill sites on waterways. Waterpower performed labor which made living there easier and increased the likelihood the Indian community would survive. However, war, disease, and predatory colonial economic practices placed many of the Praying Indians in debt. Much like their precontract ancestors after a hard winter or bad growing season, Praying Indians placed great dependence on the river to perform

[412] Yaushide Kawashima, *Puritan Justice and the Indian: White Man's Law in Massachusetts, 1630–1763* (Middletown, Conn.: Wesleyan University Press, 1986), 43–45; William Biglow, *History of the Town of Natick, Mass* (Boston: Marsh, Capen & Lyon, 1830) 82; CMassHS 1st ser., 10:136

work to survive. Depriving Natick Indians access to this river energy was an important strategy employed by colonists to dispossess them of their political and economic autonomy in the mid-eighteenth century.

Praying Indians may have chosen Natick and Hassanamisco because it was good fishing ground. The Charles River snakes through Natick and several large ponds also lie within the town's boundaries. Hassanamisco is on the Blackstone River, a steep waterway ideal for catching fish which originates in Rhode Island. A 1689 order from the Massachusetts General Court shows that Indians in the colony maintained their traditional subsistence practices alongside colonists. Because recent defeats at the hands of Wabanakis in New Hampshire and Maine threatened the colony, so called "Friend-Indians" were difficult to discern from hostile Wabanakis. As a precaution to prevent misunderstandings, Indians in Massachusetts could not leave their towns. However, the General Court made an exception for "Indian Women and Children" who were not to be "refrained from frequenting the Flats where they have been accustomed to get Clams." Indians were also granted exemptions to fish "at the Lower Falls of the Charles River, and at Neponset mill." The image of Indians gathering fish at a fall site on the Neponset River just as their ancestors had, only this time in the shadow of an English mill, speaks to a world of coexistence. The mill at Neponset likely only required a small dam which did not block many fish. Indians and colonists stood shoulder to shoulder at the falls to plug into its waterpower, either in the form of fish or milled grist.[413]

Natick's interactions with river energy were more complicated than just trying to preserve traditional practices behind the frontier. A significant element of the Puritan missionizing project was to get Indians to farm like Englishmen. Some members of these

[413] MA 30:316

communities embraced this alien lifestyle more willingly than others. A strong indicator that Natick's Indians were embracing English agricultural practices was a 1685 petition they sent to the General Court requesting permission to build a mill. They complained of "haveing noe Corn mil near us" necessitating them to travel "with much difficulty" to Watertown, Medfield, or Sudbury "to have our corn ground." Natick hired a colonist named Thomas Swain to build and operate the mill "on a convenient Stream of water in our own land and near our habitations."[414] Several conclusions can be drawn from this episode. It seems that Praying Indians no longer ground corn by hand, preferring to go through the hassle of traveling long distances to get it processed by millstones. They may have abandoned grinding corn with mortar and pestle because it was not merchantable, indicating that Natick Indians were producing agricultural foodstuffs for export into the Atlantic market, and not just for their own consumption. The finer, more consistent product spilling from mill spouts also might reveal a shift in the taste preferences of Natick Indians toward European-style breads. Natick Indians granted Thomas Swain land in town providing he build a corn mill on the property. This was an extraordinary concession since Natick townspeople guarded their titles intensely from land-hungry English neighbors. The only land willingly sold by Natick Indians in the last quarter of the seventeenth century was to build Swain's corn mill and later a sawmill.[415] That the Praying Indians could not produce a millwright from within their own ranks indicates either the vulnerable, impoverished state of the community, or an unwillingness to learn. Natick built a mill, but because they did not directly own the waterpower, they would not achieve the economic independence that came usually came along with it.

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[414] MA 30:307.
[415] O'Brien, *Dispossession*, 85–86.

A 1760 petition attested to both the value of the mill to Natick's Indians and their impoverished state. By this time Samuel Stratton operated the gristmill, which Indians certified "is of absolute necessity to us…as he grinds Toll free for us, and otherways extends his Charity to the poor among us." Nearby English residents affixed their signatures to the petition as well, saying their Indian neighbors "have great dependence on the said mill, and that their subsistence doth in a great measure depend thereupon."[416] Natick's Indians leaned on this new form of extracting energy from their rivers as a survival strategy.

Native Americans living in southern New England relied heavily on river fish to survive the year. When a sawmill on the Farmington River in Connecticut blocked fish in 1686, English settlers grew worried since the river fish were "almost the whole provision for the Indians in sumer time."[417] The importance of this food source can be seen in that the decline of fish on the Blackstone and Charles Rivers in Massachusetts and Rhode Island mirrored the decline of Indians in those communities. Hassanamisco sat thirty-one miles up the Blackstone River. The community was populated by Nipmucks, an inland people who lived far from the ocean, and thus relied on river fish more than their coastal neighbors.[418] Actions by colonists on the Blackstone in the early eighteenth century would alter the Nipmucks' relationship with that waterway, and quickly reorient their entire economy and society. In 1713, Rhode Islanders built a bridge across the Blackstone at the Pawtucket Falls within a mile of where that river empties into the ocean. Colonists narrowed the river considerably to make stable columns for the bridge, and in the process filled in the Little River—the channel fish used to circumvent the formidable Pawtucket Falls. Shortly thereafter, colonists built a dam at the site to harness the Blackstone's waterpower

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[416] MA 33:143.
[417] CA Industry, ser. 1, 1:207.
[418] "Those called Nipnetts, seated amongst some lesser rivers and great lakes up higher, within the continent." Hubbard, *General History*, 33.

for mills. Both of these developments speak to the developing colonial economy in New England—effective roads to facilitate commerce and mills to process agricultural goods for trade. Fish migrations were at odds with these developments, as bridges and dams certainly blocked many fish from reaching their spawning grounds.[419]

Rhode Islanders upstream complained to the legislature, and that body attempted to preserve fish runs, but their efforts were ineffective. William Sargeant dug a trench in 1718 around the falls, tracing the where Little River used to be. Accounts of its effectiveness were mixed. The following year in 1719 the Rhode Island's General Assembly, after complaints from "several Persons within several Towns of this Colony" empowered towns to "take care for the Preservation of the Fishery of the Rivers" by fining those who erected dams or weirs which blocked fish forty shillings. It is unlikely this law had any effect. First, certain towns benefitted from dams more than others, and those communities would have little incentive to preserve fish for neighbors upstream who valued the fish more. Second, the fine of 40 shillings was effectively a slap on the wrist for violators, that is if local justices of the peace even decided to start trouble by enforcing the law. The 1719 act clearly did not have the intended effect, since in 1735 Rhode Island passed a much stricter act which allowed people to form committees to determine if a dam or weir unfairly blocked fish—and violators would be handed a hefty 10 pound fine. The increasing severity of these laws shows that that fish were fast disappearing from the Blackstone River in the early eighteenth century.[420]

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[419] Betty Buckley and Scott W. Nixon, "An Historical Assessment of Anadromous Fish in the Blackstone River," Final Report to the Narragansett Bay Estuary Program, the Blackstone River Valley National Heritage Corridor Commission, and Trout Unlimited (Narragansett: University of Rhode Island, 2001), 12, 14; on road building see Grandjean, *American Passage*, 146–48.

[420] Buckley, "Fish in the Blackstone," 14; Trials with actions of 40 shillings were considered too small for trial, and were adjudicated by local officials. *Acts and laws, of His Majesty's colony of Rhode-Island, and Providence-Plantations, in New-England, in America* (Newport, R. I.: Franklin, 1744) [hereafter R. I. Laws], 23, 81.

The disappearance of fish on the Blackstone River prompted the Hassanamisco community to recalibrate their strategy to stay on their land. The 1719 Rhode Island fish act noted that the blocking of fish was "very prejudicial…the Poor of the Neighbourhood, who are many Times greatly relieved thereby." Indians at Hassanamisco certainly qualified as poor. Additionally, gathering fish likely held cultural value which reinforced their connections to place, as Indians could interact with the environment as their ancestors had. When the bridge and dam went up in Providence around 1713 they noticed the fish disappearing. Almost immediately thereafter they sold some of their land to Anglo colonist Elisha Johnson to build two bridges over the Blackstone.[421] Six years later in 1724 they sold more land to Thomas Drury to build a mill for the community. The construction of roads and mills indicate Hassanamisco Indians' desire to pivot economically and enter New England's expanding agricultural export market.[422] That same year Hassanamisco Indians agreed to surrender their communal ownership of land to Massachusetts in exchange for large plots in a mixed town that was rechristened Grafton. Although the records for these negotiations do not survive, the Praying Indians probably felt they were getting a good deal because they retained choice plots in the new town and the sale of land injected capital into the community which could be used to fund improvements for English-style farms.[423]

The loss of fish must have played a part in the reasoning of the Hassanamisco Indians to surrender the communal ownership of their land and depart so decisively from traditional subsistence practices. When fish began disappearing from the Blackstone, it was writing on the wall Praying Indians had read before—their hunting grounds in central Massachusetts had

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[421] AR 9:617; AR 10:238; MHJ 2:13.
[422] AR 10:231, 441–42; MHJ 6:30–31.
[423] AR 10:443; MHJ 6:31–32; AR 11:233; Mandell, *Behind the Frontier*, 88–89.

quickly disappeared after sale to the English in the 1680s.[424] The loss of land and now water made keeping traditional economic practices increasingly untenable. Their decision to build a mill in 1724, just when they sold their land speaks where the written record cannot: deprived of fish, the waterpower of the Blackstone was better used for English agricultural methods than traditional ones. The best strategy for Hassanamisco Indians to retain as much economic and political autonomy as possible was to adjust to these outside ecological pressures.

A 1738 controversy at the Watertown Dam provides another window into Praying Indians' struggle to hold onto their fish. Downstream of Natick on the lower falls of the Charles River lay the town aptly named Watertown. The early significance of the waterpower at this site is aptly summarized in the town's genesis story which is immortalized in the town's seal. In May 1630 a group of Puritans led by Roger Clap rowed up the Charles until they encountered a set of falls and were forced to disembark. Nearby Indians approached and "held out a great Bass." Clap reciprocated by sending a man to offer them a biscuit. While colonists and Indians would value fish such as bass at Watertown in the coming years, colonists would erect their first dam at the site as early as 1634 to harness the Charles' energy for a watermill which made the flour needed for biscuits. Much like the Neponset Mill, Indians and colonists were able to gather at the mill to catch fish, who could easily flounce and soar over the small dam just like more traditional rocky obstructions on their way to spawning grounds.[425]

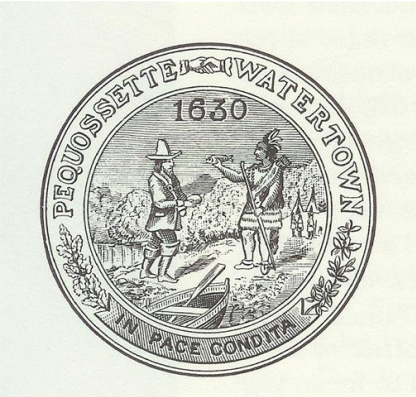

Figure 15 Seal of Watertown. Charles A. Nelson, *Waltham: Past and Present, and its Industries* (Cambridge, Mass.: Thomas Lewis, 1879), 63.

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[424] Dennis A. Connole, *The Indians of the Nipmuck Country in Southern New England, 1630–1750: An Historical Geography* (Jefferson, N. C.: McFarland & Co., 2001), 232–53.

[425] *Memoirs of Capt. Roger Clap* (Boston: B. Green, 1731), 23–24; "A mile and a halfe from this Towne (Water-towne), is a fall of fresh waters, which conveigh themselves into the Ocean through *Charles River*. A little below this fall of waters, the inhabitants of *Water-towne* have built a Wayre to catch Fish, wherein they take great store of

One hundred years after Clap exchanged his biscuits and fish, the situation in Watertown, much like the rest of New England, had changed. Sitting only a few miles outside of Boston, the population in and around Watertown had grown exponentially. Boston itself had grown fourfold, from around 4,000 souls in 1675 to 16,000 by 1735. More people meant more mouths to feed, which increased the amount of grain gristmills needed to process.[426] In order to extract more energy from the Charles River, the Watertown Dam had been raised—for the greater the fall of water, the faster the millwheels churned. Shortly thereafter, two petitions reached the General Court in Boston during the height of the spring fish migrations in June. One came from Josiah Kingsberry signed with "a great many" names from communities upriver of the Charles, the other was sent by Natick Indians. Both complained that the raising of the Watertown Dam put them under "great disadvantages" by preventing their "taking Alewives and other fish." The petitioners were likely inspired by a recent 1735 law which required mill owners to provide "sluices" on their dams so fish could pass upstream. In November, Watertown elected Jonas Bond to speak in defense of the town, and the dam, in Boston. Although records of these deliberations do not survive, a committee assigned to adjudicate the matter, after "having met and heard all parties" determined that the dam would not be lowered.[427]

The General Court's decision favored mill owners and the interests of Watertown at the expense of everyone upstream. Such judgement concentrated the Charles' waterpower in ways

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Shads and *Alewives*. In two Tydes they have gotten one hundred thousand of those Fishes: This is no small benefit to the plantation" William Wood, *New England's Prospect*, 44; Maverick, "Briefe Description," 39; Johnson, "Wonder-Working Providence," 74; Roger Thompson, *Divided We Stand: Watertown, Massachusetts, 1630–1680* (Amherst: University of Massachusetts Press, 2001), 92; Karl Haglund, *Inventing the Charles River* (Cambridge, Mass.: MIT Press, 2003), 424.

[426] Lockridge, "Land, Population and the Evolution of New England Society," 67–68; James A. Henretta, "Economic Development and Social Structure in Colonial Boston," *William & Mary Quarterly* 22, no. 1 (1965): 79–81; Lemuel Shattuck, *Report to the Committee of the City Council Appointed to Obtain the Census of Boston for the Year 1845* (Boston, 1846), 3.

[427] AR, 12:492, 511–12, 536–37; unfortunately these petitions do not survive; *Watertown Records comprising the Fourth Book of Town Proceedings* (Boston: Stanhope Press, N.d.), 179.

that colonial leaders knew would foster economic development. Preserving the diffuse, natural flow of the Charles which Indians and impoverished colonists did not suit their interests. The committee assigned to report on the matter stated that enough water passed over the dam in the spring to accommodate the passage of fish. Such a conclusion clearly ran counter to the testimony of upriver petitioners. Instead of a negligible impact, research in aquatic biology shows that raising a dam only a few feet can have cataclysmic impact on anadromous fish try to pass.[428] However, to placate fish-starved Indians and colonists above the dam, the committee ordered that the stones thrown down by the winter ice each year not be repaired until May, giving the fish a few feet less to scale. Yet, the General Court ultimately sided with the dam owners by allowing them full discretion to adhere to this judgement: for if mill owners deemed the water too low to sufficiently power their mills, they only needed the approval of five selectmen to raise the dam before the May requirement. The only selectmen authorized to make this determination in the General Court were from Watertown and adjoining Newtown—communities directly invested in the smooth running of these mills. The Indian and colonial petitioners above the Watertown dam whose privileges had been violated and who initiated these proceedings would have no voice in such decisions about the dam. One has to only briefly consider that in times past if the Charles was low, the numbers of rocks and ledges in the riverbed grew, and fewer fish could ascend to the upper reaches of the river. Now with a dam bisecting the Charles, raising the dam in such low moments would cut migrating fish off

[428] Small amounts of fish made it over the dam which were caught in Waltham. By the 1850s pollution destroyed the practice. Charles A. Nelson, *Waltham, Past and Present: and its Industries* (Cambridge, Mass.: Moses King, 1882), 21–22; Michaël Ovidio and Jean-Claude Philippart, "The impact of small physical obstacles on upstream movements of six species of fish: Synthesis of a 5-year telemetry study in the River Meuse basin," *Hydrobiologia* 483 (2002):55–69; P. E. K. Symons, "Leaping behavior of juvenile coho (*Oncorhynchus kisutch*) and Atlantic salmon (*Salmo salar*)," *Journal of the Fisheries Research Board of Canada* 35, (June 1978): 907–09: Theodore Castro-Santos, "Optimal swim speeds for traversing barriers: An analysis of volitional high-speed swimming behavior of migratory fishes," *Journal of Experimenting Biology* 208:421–432.

completely since all the water would be used to give life to the gears which spun enormous grinding stones. Furthermore, there is no mentioning what mill owners were to do if after repairing the dam water levels rose before May and during the height of fish runs. Nothing said mill owners were required to throw down the rocks they had just repaired.[429]

The complex and unfair protocol for policing the passage of fish at the Watertown Dam was compounded by the disorganization of the upriver petitioners. Despite representing an almost universal sentiment in their towns, their commitment seemed to dissolve into an unwieldy mass. After submitting their petitions sometime around June, in six months time neither the colonists nor Natick Indians had presented their grievances to Watertown officials and mill owners as they had been ordered, forcing the General Court to order them a second time to do so to resolve the dispute.[430] If the loss of fish was such a pressing issue, why did the petitioners not even show their petitions to Watertown officials? We can only speculate, but perhaps poverty or lack of legal counsel played a role. At least for the Natick Indians, the mill owners and their allies would have possessed considerably more wealth and political access than they did. In the end, the Watertown dam remained at its new elevated height which would continue to block an already much depleted fish population from swimming upstream to spawning grounds.[431]

In the two decades following the Watertown dam dispute, the number of land sales between Natick Indians and British colonists rose 150 percent. When passing through Hassanamisco in 1764, diarist Ezra Stiles remarked "Now not a Male Ind[ian]. in the Town, &

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[429] AR 12:536–37.
[430] AR, 12:511–12.
[431] In 1748 Natick Indians complained that their Anglo neighbors violated their fishing rights on Cochituate Pond by building a seine. Indians explained that that the pond was host to "ale-wives in plenty, wherby our families have been in a great measure supported." Cochituate likely took on more importance because it drained into the Concord River, which still supported a significant anadromous migration each year. Colonists ignoring Indian privileges granted in treaties further substantiates the poor enforcement of the fish and mill acts. MA 31:574.

perh[aps]. 5 Squaws who marry Negroes."[432] Historians have argued that King George's War during the 1740s and the Seven Years' War during the 1750s explain this disappearance of Indian men and the rise in land sales to colonists. In an attempt to secure political gains from the British, nearly all the able-bodied Praying Indian men served in these conflicts. Households were deprived of a significant share of their labor to work their land—in the best cases only temporarily and but unfortunately in many cases permanently. Native American soldiers suffered significantly higher mortality rates than their Anglo comrades in arms.[433] By the mid-eighteenth century women outnumbered men two to one in many Indian communities. By this time, most women had lost the agricultural skills which characterized their traditional economic role as they tried to become more like their European neighbors.[434] Without men to harvest crops away at war, Indian communities struggled to feed themselves or earn an income in the colonial economy. For Natick, the loss of river fish a few years before the outbreak of King George's War in 1744 was particularly bad timing. In the past during bad harvests Indians leaned on hunting or fishing to get by. By King George's War, fewer fish were coming up the Charles and Blackstone Rivers. Even though most of the hunting ground was gone, Massachusetts forbade Praying Indians from leaving their towns on the penalty of death.[435] Where fish may have saved them in the past, colonial dams prevented that.[436]

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[432] Mandell, *Behind the Frontier*, 119; Franklin Bowditch Dexter, *Extracts from the Itineraries and other Miscellanies of Ezra Stiles* (New Haven, Conn.: Yale University Press, 1916), 203; Daniel R. Mandell, "Shifting Boundaries of Race and Ethnicity: Indian-Black Intermarriage in New England, 1760–1880" *Journal of American History* 85, no. 2 (1998): 466–501.

[433] Brian D. Carroll, "The Effect of Military Service on Indian Communities in Southern New England, 1740–1763," *Early American Studies* (2016); Richard R. Johnson, "The Search for a Usable Indian: An Aspect of the Defense of Colonial New England," *Journal of American History* 64, no. 3 (1977): 631, 644–47; Brian D. Carroll, "'Savages'" in Service of Empire: Native American Soldiers in Gorham's Rangers, 1744–1762," *New England Quarterly* 85, no. 3 (2012): 383–492.

[434] Jean O'Brien, "'Divorced' from the Land: Resistance and Survival of Indian Women in Eighteenth-Century New England," in *After King Philip's War*, 145–46.

[435] Supra Chapter 1. Hubbard, *General History*, 74; AR 8:55–56.

[436] Mandell, *Behind the Frontier*, 45, 119

The disproportionate casualties Praying Indian communities suffered from military service in the 1740s and 1750s robbed them of the male labor power needed for English-style husbandry. The loss of river fish in Natick and Hassanamisco during this time served as a fatal double blow. Unable to feed themselves or pay medical bills for sick relatives or disabled veterans, many Indians gradually sold their land to colonists. If fish still ascended southern New England's rivers, the economic pressure would have been significantly lessened. The strictures of the capitalist economy Natives ensnared themselves in robbed them of the flexible mobile economic practices their ancestors used to survive difficult times. Much like the first colonists to Plymouth whose crops withered in the unforgiving New England climate, Praying Indians were the ones now starving.

Before the Praying Indians in Hassanamisco and Natick lost their land through sale, they lost waterpower. By the 1740s the shape of Blackstone and Charles Rivers had changed dramatically from a relatively free flowing waterways to rivers where its flow had slackened, and its energy concentrated to fuel growing colonial towns. The immense fish runs which so impressed the first European colonists were gone or severely diminished. The absence of reliable fish calories every year rendered Praying Indians vulnerable to the fluctuations of a developing colonial market economy many were hesitant to fully join. It is also telling that the Indians did not own the mills in Natick or Hassanamisco. The Anglo millers which staffed these mills transformed the river's course into a consumable form of energy, which they gave to Indians for free. But because Indians did not own these mills they lacked the social and economic independence that came along with them. Anglo millers such as Thomas Drury in Grafton collected mill tolls from non-Indians in the vicinity and accumulated wealth which he passed on to his children. His son Luke inherited the mill, and in 1773 was part of a committee in Grafton

which purchased the Hassanamisco Indians' school and meeting house—both of which sat empty. These structures were built as a condition of the 1724 land deal which opened Hassanamisco land to Anglo settlement. Colonists controlled the waterpower in Grafton (formerly Hassanamisco) and thrived. Indians did not.[437]

Northern New England

The Wabanakis of Maine, New Hampshire, and Vermont maintained political sovereignty much longer than their southern Indian neighbors. Although victorious from a military standpoint in King Philip's and King William's Wars, the brutality of these conflicts took their toll. Many fled to the St. Lawrence Valley and the protection of New France. Western Wabanakis suffered crushing defeats when the English destroyed their villages in 1725 at Lovell's Fight and Norridgewock, triggering a mass exodus to Canada. Indians of New Hampshire and western Maine reverted to scattered family bands and no longer congregated in large villages. Besides Wabanakis distant from English settlers in Vermont and eastern Maine, those who elected to remain on their ancestral lands could no longer assert their independence from a military standpoint after the 1720s.[438]

More so than in southern New England, access to fish had sparked war in the north. Growing seasons were shorter above the Merrimack River, so Indians there traditionally relied on fish for as much sixty percent of their diet, "and that for the want of which they are like to be Starved."[439] Before formally submitting to British rule in a series of treaties between 1725 and

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[437] "Drury, Luke, 1737–1811," in *The New England Indian Papers Series*, eds. Paul Grant-Costa and Tobias Glaza, Yale University Library Digital Collections, https://yipp.yale.edu/bio/bibliography/drury-luke-1737-1811 (accessed Dec. 22, 2017); AR 11:240.
[438] David Ghere, "Abenaki Factionalism, emigration and social continuity: Indian society in northern New England, 1725 to 1765" (PhD diss., University of Maine, 1988).
[439] Letter to Col. Thos. Westbrook, Sept. 7, 1736, DHSM 11:173.

1727, Indians responded to mills and nets blocking river fish with violent reprisals which dislodged colonists. Such action was justified in their view because, first, they considered the colonists guests in their homeland, and second, treaties going back to 1693 guaranteed their ability to hunt, fish, and fowl wherever they pleased. Wabanakis interpreted treaties surrendering land to the English as only restricting them from the crops and livestock behind English fences. They displayed little inhibition killing the animals, walking the trails, or cruising the water that happened to travel through those enclosed spaces. Such mobility was an essential element of their extensive subsistence strategy. Treaties protected these usufruct rights. When Wabanaki Sagamores in 1699 invited the English to reoccupy "their former rights of Lands possessions and improvements" they made the stipulation "that all Fishermen improve and enjoy the Fishery…as they have been anciently accustomed." The final draft of Dummer's Treaty in 1727 also guaranteed "the Priviledge of Fishing, Hunting, and Fowling as formerly."[440]

By 1727 Wabanakis of the Pequawket, Androscoggin, and Kennebec tribes in western Maine lacked the strength to enforce treaty stipulations with military force. These peoples henceforth sought to affirm their traditional usufruct privileges by appealing to British colonial authorities to live up to past agreements, particularly to preserve the nature of their rivers. Increasing colonial population and their extractive harvesting practices affected Indians' access to traditional food sources. In particular, colonial dams and overfishing impinged on the calories Indians derived from rivers which they needed to survive the lean colder months. As in the past, northern New England's waterways would be trigger points of intercultural confrontation.

In the months preceding peace, Wabanakis tested this new peaceful approach to get colonists to live up to their promises. Several times during the spring of 1727 Wabanakis

[440] CMeHS 1st ser., 3:418.

traveled down the Saco River to complain to trader and go-between Samuel Jordan that colonists were blocking fish from going upstream.[441] Although most of the fighting had died down, the political situation in eastern New England was still uncertain. The Peqauwket tribe which lived along the upper Saco had been smashed in a May 1725 battle with colonial scalp hunters—memorialized as "Lovell's Fight" after the slain English leader. Many Peqauwkets fled to Canada while those who remained in Maine scattered. Their chaotic situation is evidenced by the British inability to clearly ascertain the tribal identities of Wabanakis in western Maine and northern New Hampshire, frequently conflating the St. Francois, Kennebec, and Arresaguntacook groups. These western Wabanakis did not attend the 1726 peace conference, so a follow up meeting was scheduled for July 1727.[442] The last thing Massachusetts officials needed in the months leading up to that conference was an Indian dispute to derail the drawn out peace negotiations. Jordan feared the situation on the Saco River might hold the potential to prolong the uncertainty and bloodshed in the Eastern Country.

Samuel Jordan was an important go-between for Massachusetts and Wabanakis in the Eastern Country. Wabanakis attacked his family as a young boy in 1703, killing his father while carrying the young Samuel and his family into captivity. During the next several years he became fluent in the Wabanaki tongue before being ransomed in Canada. Jordan enjoyed a good reputation among the Wabanakis and English, which, in addition to his language skills, made him a precious commodity on the eastern frontier. Since the return of peace in 1713 he

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[441] I am borrowing the term "go-between" from James H. Merrell, *Into the American Woods: Negotiators on the Pennsylvania Frontier* (New York: W.W. Norton, 1999).
[442] DHSM 10:239–40; Ghere, "Abenaki Factionalism," 167; Gordon M. Day, *The Identity of the St. Francis Indians* (Ottawa: National Museum of Canada, 1981), 37–41.

conducted trade with colonists and Indians from a garrisoned house near the mouth of the Saco River.[443]

Only a month before the crucial conference in July 1727, Samuel Jordan penned Massachusetts Governor William Dummer informing him of the Indian complaints regarding fish passage. Jordan attributed the problem to "several Irish Men settled… at Saco Falls" who "prictice ye catching of all Sorts of Fish with Scains [seines], began last Spring, and continue the same Practice Still: by w[hi]ch means prevent the Fish going up the Falls, into the fresh ponds, as usual." Jordan was a selectman in Biddeford and reported that the town addressed Wabanaki complaints by banning the use of seines. But he lamented that the Irish ignored them, and "continue to go on, & will do so, without some immediate Command from ye Governmt."[444]

Biddeford's singling out of its Irish residents for initiating this diplomatic crisis offers a glimpse into some of the internal tensions straining New England towns during the 1720s. In 1718 nearly five hundred Protestant Scotch-Irish arrived in Boston. Many New Englanders saw the ships carrying these Scotch-Irish immigrants as only full of "disease, paupers, and 'papists.'" That the sudden appearance of so many hungry immigrants happened to coincide with a severe grain shortage in New England only further soured Americans to the arrival of these newcomers. Others more optimistically saw the Scotch-Irish as ideal fodder "to settle our frontiers as a barrier against the Indians." Accordingly, many were directed to western Massachusetts, New Hampshire, and Maine.[445]

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[443] George Folsom, *History of Saco and Biddeford*, (Saco, Me., 1830), 180–81, 237–38; Wabanakis preferred Samuel Jordan because "we understand him plainest" and Governor Jonathan Belcher referred to him as "a very good Man." CMeHS 1st ser., 3:382, 434.
[444] DHSM 10:400; Folsom, *Saco and Biddeford*, 323.
[445] "Rev. James McGregor and John McMurphy, 1720–1730," in Kerby A. Miller, et al., *Irish Immigrants in the Land of Canaan: Letters and Memoirs from Colonial and Revolutionary America, 1675–1815* (Oxford: Oxford University Press, 2003), 437; Henry Jones Ford, *The Scotch-Irish in America* (Princeton, N. J.: Princeton University Press, 1915), 223–26; MHJ 2:83, 106, 175; R. Stuart Wallace, "The Scotch-Irish of Maine: Purpooduck,

The Scotch-Irish newcomers seemed to be an impoverished and contentious lot. A 1718 petition from John Armstrong and 34 others "lately arrived from Ireland, at Casco Bay [Maine]," requested land and "Provisions…for their Subsistence this Winter." The General Court sent 150 bushels of cornmeal for their relief.[446] Despite this generosity from the government, the Scotch-Irish were not welcomed with open arms by locals. A 1720 petition from James McGregor, one of the Casco Bay immigrants, reported that "We were Surprised to hear our Selves termed Irish People" since they were Protestants and "frequently ventured our all for the Brittish Crown and Liberties against the Irish papists & gave all tests of our Loyalty." McGregor alluded to accusations made against his Irish community of "violence, Injustice, fraud, force, insolence." The open flouting of Saco's 1727 seine law lends some credibility to English colonists' accusations of the Irish being an unruly sort. But McGregor's petition also describes "troops" of men who "violently demolish'd one of our houses, and destroyed part of our hay, and threttned and Insulted us with impunity, to the Great terror of our wives and Children." One must wonder if the Anglo colonists' anti-Irish prejudice originated along religious-racial lines, or annoyance at the arrival of a band of newcomers seeking access to already limited resources. Colonial consumption of land, fish, and forest was already triggering violent confrontations with Native peoples before these queer-sounding neighbors moved in. Regardless, by 1726 some of these "Irish People" had made it to Saco, and if they were still of the poorer sort, then the abundance of river fish must have seemed a food or revenue source ripe for the taking.[447]

Merrymeeting Bay, and Georgia," in Michael C. Connolly, ed., *They Change their Sky: The Irish in Maine* (Orono: University of Maine Press, 2004), 41–69.

[447] Rev. James McGregor's petition dates 27 Feb. 1720 to Governor Samuel Shute of Massachusetts, Jeremy Belknap Papers, volume 6I.A.81, Massachusetts Historical Society; Wabanakis were not too keen on the Irish either, apparently "Mr Waldo Enquired who we should like best for our Neighbors English or Irish, We Sayd English for

Massachusetts heard the plaints of the Saco River Wabanakis through their proxy Samuel Jordan and quickly passed a new law. An earlier 1710 Massachusetts law required weirs, nets, or any other fishing "incumbrance" on rivers to be licensed by county courts, which could be lawfully torn down by justices of the peace if enough people complained. Realizing this was not a sufficient deterrent for the Irish at Biddeford, or likely other places, the General Court added a ten pound fine for convicted violators. This law was published within a month of Jordan's letter to the Governor, and more importantly almost a week before the treaty at Falmouth took place.[448]

The quick response to Wabanaki complaints about fish passage demonstrates a willingness on the part of Massachusetts to cooperate with recently sullied Indian nations on their frontiers. In his letter, Samuel Jordan warned that if no action was taken the "Consequence will terminate to ye Disservice of ye Province, as I conceive." Older colonists on the Saco River might well have remembered an identical Indian complaint about fish passage on the river in 1688, initiating a war that resulted in the town's destruction at the hands of the aggrieved Indians. Back then, Indians claimed the exclusive privilege of catching river fish. Although the Wabanakis of western Maine no longer stood as a daunting military threat, any violence would be a considerable nuisance for the colony. Apart from fishing on the Saco River, Auyaummowett of the Arresaguntacooks complained at the 1727 Falmouth Treaty that Mohegan Indians from southern New England were trespassing on their hunting grounds east of the Merrimack River which he reported "very much damage us" by taking "our Game from us, which we expect to get when we go a Hunting." The concerns of the Arresaguntacooks and other Wabanakis of western

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tho sometimes we fell out as boys do at play, yet afterwards we were reconciled & got friends again, but as to foreign men we were not acquainted with their manners and did not know their customs." (1738) DHSM 23:240.

[448] AR 1:644–45; 2:426; CMeHS 1st ser., 3:411.

Maine speak to a people on the brink, unable to ward off incursions into their territory, and finding progressively dwindling supplies of sustenance. People in such desperate straits had little to lose, and could be dangerous if triggered by further encroachments on the rivers where they derived a great deal of their yearly food supply. For Massachusetts, placating such Indians kept the eastern frontier quiet, which would scare fewer prospective settlers away from New Hampshire and Maine. This policy served the interests of many Massachusetts legislators who were either land speculators themselves, or closely tied to them.[449]

The 1727 episode on the Saco River also demonstrates the feckless state of colonial law on its frontiers. Enforcement was lax, unequal, and highly contingent on local circumstances. Biddeford's inability to stop fishermen after passing a town ordinance in accordance with Massachusetts law is just one of many examples of this. It is likely that Massachusetts only acted so urgently because an important treaty was on the horizon. Implementing the law on poor Irish immigrants was also probably an uncontroversial move among the colony's ruling elite.[450]

It seems the enforcement of these fishing laws lapsed shortly after the treaty. James Woodside, commander of the Saco River truck house, "greatly obstructed the Fish" by setting seins across the river. When Wabanakis complained, Woodside responded "That fishing was free by Charter, and he would do it" then "abused and beat" them.[451] During a 1732 conference with the Massachusetts Governor, Peqauwkets and Androscoggins again complained that colonists "by their setting their Nets, it pre|vents the Fish running up the [Saco] River, for the Use of the Indians." They asserted "We desire that both English and Indians may have the Benefit of the

[449] CMeHS 1st ser., 3:430–31, 441.
[450] Neal W. Allen, Jr. "Law and Authority to the Eastward: Maine Courts, Magistrates, and Lawyers, 1690–1730," in *Publications of the Colonial Society of Massachusetts* (Boston: Colonial Society of Massachusetts, 1984), 62:275–77.
[451] MHJ 9:172.

Fish" but that such nets gave colonists "the sole Advantage." That Indians wanted to share the "Benefit of the Fish" differed from their 1688 claim that "the Fishery of the Rivers had been a Priviledge reserved Entire unto themselves." It was an important acknowledgement of the colonial presence and western Wabanaki desire to live beside them, despite all the bad blood from the previous half century. Governor Jonathan Belcher either misunderstood the matter, or intentionally refused to help, saying "If the English use Nets, so may you, and be furnish'd with them at the Truck Houses." The issue was not the gear colonists were using, but that they were catching so many fish near the coast that very few were passing upstream to the Wabanakis living in interior areas. The 1710 law mentioned earlier which required weirs to be removed if people complained apparently did not apply to Wabanakis.[452]

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Rivers brought Wabanakis and colonists into confrontation yet again during the 1730s on the Androscoggin and Presumpscot river outside of Falmouth (now Portland). [455] Much shorter than the Saco or Androscoggin Rivers, the Presumpscot drops precipitously along its twenty-six mile course from Sebago Lake to the ocean. Presumpscot, meaning "river of many falls" in Wabanaki, references the eight falls which Indians found as convenient places to extract food energy inhered in the salmon, alewives, and sturgeon which pulsed upstream, as well as the eels which poured downstream, at predictable intervals each year. By the 1730s, British gentlemen sought to enrich themselves by harnessing the Presumpscot's energy for paper and saw mills. In

[452] *A CONFERENCE…at Falmouth in Casco-Bay, July 1732* (Boston: B. Green, 1732), 20–21; Mather, "Decennium Luctuosum," 61.
[455] For events on the Androscoggin River, see supra Chapter 5. "Petition of the Inhabitants of Brunswick about Fort George," Apr. 25, 1737. Maine Historical Society, Pejepscot Proprietors Papers, Box 6, Folder 4.

1735 one of those gentlemen erected a dam on the lower falls of the Presumpscot that was so high it blocked the fish. Local Indians quickly protested.[456]

The story behind the dam is the story of the ambitions Thomas Westbrook. The successful commander from the previous Indian war, Westbrook was rewarded for his service with a lucrative appointment as His Majesty's Mast Agent. Northern New England's terrifyingly dense forests enjoyed the reputation of having the "pines for masts the best in the world." Supplying the Royal Navy with these masts was an imperial security concern, and after 1691 the best trees were reserved for the King. Mast Agents enforced this monopoly by identifying, marking, and guarding these mighty trees. In 1727 the center of this mast operation, along with Thomas Westbrook, moved from Portsmouth to Falmouth. Shortly following his arrival, Westbrook erected a modest dam on the diminutive Stroudwater River which powered a sawmill and paper mill. Westbrook's activities attracted other settlers to the area, and he quickly became a man of local eminence. Mimicking English manorial practices, Westbrook built a large dwelling he called Harrow House as a physical representation of his position.[457]

Colonel Westbrook sought to enhance his status and wealth by building more mills on the greatest energy source in the area—the first set of falls of the Presumpscot River. He reinvested money made from his position as Mast Agent into acquiring land and mill rights on that river. Westbrook partnered with Samuel Waldo, a noted proprietor in Nova Scotia and eastern Maine.[458] In 1731 Waldo hired an experienced millwright in England and by 1734 Westbrook

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[456] Lisa T. Brooks and Cassandra M. Brooks, "The Reciprocity Principle and the Traditional Ecological Knowledge: Understanding the Significance of Indigenous Protest on the Presumpscot River," *International Journal of Critical Indigenous Studies* 3, no. 2 (2010): 11–28.
[457] Edward Randolph's Narrative or Report on the Colonies (1676), in *Hutchinson Papers*, 2:230; The Charter of Massachusetts Bay—1691; *New England Weekly Journal*, May 8, 1727; CMeHS 2nd ser., 6:37–40.
[458] *York Deeds* (Bethel: Maine Genealogical Society, 1908), 16:401; G. A. Rawlyk, "Waldo, Samuel," in *Dictionary of Canadian Biography*, vol. 3, University of Toronto/Université Laval, 2003–, accessed August 18, 2017, http://www.biographi.ca/en/bio/waldo_samuel_3E.html.

began building what locals referred to as the "great dam" across the Presumpscot. Unlike other colonial dams which lay on small tributaries or only rose a few feet, Westbrook's great dam was of considerable height and clotted the main artery of a major river. Since such an edifice obstructed nearly all other forms of energy extraction—whether by blocking fish or flooding upstream meadows—it was an aggressive expression of ownership of a river even by European standards. Westbrook hoped to channel the greater amounts of energy at Presumpscot Falls toward "sundry sorts of mills" to make paper and boards for export.[459]

Westbrook's contemporaries understood that his great dam would block fish and inevitably create conflict. Soon after its completion, Reverend Thomas Smith observed "an acre of fish, mostly salmon" below the dam, unable to pass. Smith opined in his journal that more damage would be done by the loss of these fish than any benefit from Westbrook's proposed sawmill. By August 1736 residents in Falmouth complained of "Insults & Threatening" from Indians. The truckmaster on Saco River wrote to Westbrook that he saw three Androscoggin Indians en route to Boston to complain that the Presumpscot was "so dam'd and Obstructed that the Fish cou'd not pass up to the said Ponds."[460] Thomas Westbrook was not naïve about the environmental impact his dam would have. His knowledge of Wabanaki lifeways gleaned from military experience made him abundantly aware how devastating the loss of river fish could be—men under Westbrook's command patrolled known fishing spaces as a tactic to defeat

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[459] William Willis, *Journals of the Rev. Thomas Smith and the Rev. Samuel Deane* (Portland, Maine: Joseph S. Bailey, 1849), 81. N.b. Thomas Smith's original journal was lost or dismembered around the turn of the twentieth century. Two early nineteenth-century published versions contain selected excerpts. Otherwise quotes from Smith's journal are taken from nineteenth century histories; The exact dimensions of Westbrook's great dam are not known, although it impressed observers. Governor Belcher received information from "a Person of Credit and Honour" that the dam was likely to burst because it was so big. Jonathan Belcher to Richard Waldron, Oct. 4, 1736, Belcher Letterbooks, Reel 4; CMeHS, 2nd ser., 6:42; *New England Historical and Genealogical Register* 29 (1875): 160.
[460] Smith's original journal does not survive, forcing scholars to rely on Willis' printed editions. This quote and passage is referenced in Hugh D. McLellan, *History of Gorham, Me.* (Portland, Maine, 1903), 248; DHSM, 11:1723.

Wabanakis in the previous war. The Colonel guarded the Presumpscot's energy by building two blockhouses which stood at either end of the dam to prevent Indians from tearing it down.[461]

In the summer of 1739, Polin, sagamore of the Presumpscot band of Wabanakis, walked to Boston to meet with Governor Jonathan Belcher. He reported that a fishway on Thomas Westbrook's great dam had not been built, despite promises from Westbrook to do so after complaints from both Indians and colonists in 1736. Although Polin met with Belcher to bewail encroachments made by British settlers and to request a truck house closer to his people, it was the river fish which pushed him over the edge and brought him to Boston. Wabanakis such as the Presumpscots must have interpreted the damming and overfishing of their rivers in the context of the story of a giant mud creature who selfishly dams a river. It falls to their hero Gluskap to destroy the dam, restore the flow of the river, and bring about balance among all things. In that story, the damming of the river caused people to thirst. Undoubtedly, Westbrook's dam was having a similar effect on the Presumpscots through starvation. Belcher sympathized with Polin's plea, and wanting to avoid hostilities, handed the Sagamore a letter to deliver to Westbrook which directed the Colonel to "in the proper season to leave open a sufficient Passage for the Fish."[462] From Polin's perspective, it was easier to sue against a physical dam than trying to compile evidence against colonial fishermen who could always deny the charges or elude justice in the region's inconsistent court system as they had in Saco. Polin's people went to war over fish passage before. His visiting Boston indicates a desire to work within the British legal system, and also likely a pragmatic realization that violent reprisal was not a realistic solution to disputes with colonists in southern Maine anymore.

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[461] CMeHS 2nd ser., 5:378–79.
[462] Gluskap story *supra* chapter 1; DHSM 23:257–62.

It is difficult to say whether Westbrook ever built the fishway, although events after Polin's meeting with Governor Belcher suggest that he did not. Collusion and an inability to enforce the law on the distant Maine frontier may have been factors in this. Governor Belcher dined with Westbrook on several occasions before and after the dam's construction at Harrow House while visiting Falmouth to meet with Indians. It is very unlikely that Belcher was ignorant of Westbrook's business interests, which apparently included provoking Indians. Belcher wrote Westbrook's son in law in 1733 before the great dam's construction that "if an Indian war happens (which God forbid) it may be of some service to his [Westbrook's] affairs." The Governor also purchased timber from Westbrook throughout the 1730s. It seems Westbrook responded negatively to the missive Belcher gave Polin ordering him to build a fishway on his dam. Although that letter does not survive, Belcher's response does. The Governor first ordered "well Curl'd" wainscoting boards from Westbrook, then sternly advised "It will be best on all heads that you make the Indians quiet & Easy in their fishery at Pesumcot River," then closed by signing "Your Ready Friend." It seems the Governor was engaged more in persuading Westbrook than ordering him.[463]

The growth of colonial population in southern New England and the concomitant rise in the number of mills to supply energy to this population led to the passage of two 1735 acts in Rhode Island and Massachusetts which required milldams to have fishways to "Prevent the Destruction of Alewives" and other fish.[464] This law made Westbrook's dam not only a nuisance for politicians like Belcher trying to keep the peace with Indians, but also illegal by the letter of

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[463] Belcher dined with at Westbrook's house less than two weeks before Polin arrived in Boston. Belcher was in Falmouth to meet with Indians, of which Polin was apparently in attendance. It is curious why Polin did not raise the dam issue then. Perhaps his silence indicates an inability for the Presumpscots to speak at these conferences in comparison to more powerful tribes such as the Penobscots. Willis, *Journal*, 76; Samuel Freeman, *Extracts from the Journals kept by the Rev. Thomas Smith* (Portland, Me., 1821), 29; CMassHS 6 ser., 5:160, 302; Belcher Letterbooks, Reel 2:550; Reel 3:143; Reel 4:135, Reel 6:15.
[464] AR, 2:786–8; R. I. Laws (1744), 185–87.

Massachusetts law. That Westbrook openly flouted this law for four years, during a period of time when Belcher stayed at his home, suggests that this fish act was a matter of considerable subjective enforcement to say the least. The power of influential landowners such as Westbrook was immense: Belcher himself condoned illegal logging in New Hampshire and Westbrook's business partner Samuel Waldo initiated the settling of Penobscot territory without permission from the government—almost starting another Indian war in the process.[465]

The experience of Edward Cloudman also suggests that a "sufficient Passage for the fish" was not constructed on the Presumpscot. Cloudman was working in Westbrook's sawmill one night in 1741 when he caught the twinkle of a gun barrel in the distance. When he scanned the tree line, he made out the figure of an Indian coming toward him. Cloudman was working late likely because the river's water level was high. In such moments, mills needed to capitalize on these periodic spikes in roaring river energy by working around the clock. The higher river levels of spring also made it easier for migrating fish to scale obstacles on their way to spawning grounds. Temperature records from the early 1740s indicate a stretch of severe weather which would have made food scarce for colonists and Wabanakis alike. Corn was so expensive that colonists reportedly "groan[ed] terribly at the price." During such years when other resources were scarce, river fish during the spring saved them from starvation. Thomas Smith recorded in his journal on May 9, 1741 that "The fish have but now struck in; a great relief to people almost perishing." The Indian skulking around Westbrook's dam was likely pushed to violence out of a similar desperation. He fired twice at Cloudman, but missed. According to legend, Cloudman then picked up the iron bar used for pushing logs along the saw carriage and heaved it at the Indian, who, after catching the whirring projectile in the head, was instantly killed. A shaken

[465] Michael C. Batinski, *Jonathan Belcher: Colonial Governor* (Lexington: University Press of Kentucky, 2015), 74; Saxine, "Performance of Peace," 387–94.

Cloudman shut down the mill and went home. The next day colonists found the sawmill burnt to the ground.[466]

When war again broke out between Britain and France in 1744, the Presumpscots chose to fight against the British. This decision stood in contrast to their western Wabanaki neighbors on the Saco River who sought refuge with Massachusetts. The Presumpscots were losing ground to colonial encroachment which made it increasingly harder to survive on the land. They had tried working within the British system to no avail. Their options had been reduced to violence or dispossession. After that war, Polin appeared at the 1749 peace conference as "Chief of the St. Francois," indicating that many of his people migrated to Canada. Settlers on the Presumpscot occasionally saw Indians afterword, but these sightings decreased over time. Polin never forgot the injustices he suffered at the hands of Westbrook and other British colonists. When open warfare returned in 1754, Governor William Shirley complained to his council of "the many Outrages & Hostilities suppos'd to be done by one Polan an Arssagunticook [*sic*] Indian." While raiding settlers on the Presumpscot in 1756, Polin was shot and killed. The event and his killer Stephen Manchester were celebrated in lore and verse. Polin was killed in May, during the height of the fishing season on the river which gave his people their name.[467]

Things did not end much better for Thomas Westbrook. After going through all the trouble to erect his great dam, the sawmill never seemed to return a profit. By 1737 his business partnership with Samuel Waldo turned sour. Waldo sued Westbrook on two occasions, transforming Westbrook from one of the wealthiest men in Falmouth to an abject debtor, even

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[466] McLellan, *History of Gorham*, 433; W. R. Baron, "Historical climate records from the northeastern United States, 1640 to 1900," in *Climate since AD 1500*, eds. Raymond S. Bradley and Philip D. Jones (London: Routledge, 1995), 82; DHSM 23:280; Willis, *Journals*, 96.
[467] CMeHS 1st ser, 4:147; DHSM, 24:17; CMeHS 2nd ser., 8:320–21.

confiscating his cherished Harrow House.[468] When death mercifully came to Westbrook in 1744, his family was forced steal his body away and bury it under the cover of darkness to avoid his remains falling into the hands of his creditors, who could confiscate the once-revered Colonel's corpse as a surety until his surviving relatives paid off his debt. Westbrook's great dam, much like his aspirations, washed away during a flood in 1751.[469]

The episodes in 1727, 1737, and 1739 show Wabanakis grappling with overflowing colonial migration which they could no longer cap. Although much of their land remained unsettled by colonists, their limited ability to enforce territorial integrity made it increasingly difficult to protect the fauna central to their subsistence practices. Northern New England's many waterways seeped past boundaries Indians were trying to contain colonists behind. River fish calories were a significant part of their seasonal subsistence equation, especially for inland Wabanakis with limited access to the ocean. This riverine fish resource was extremely vulnerable because those fish needed to swim through colonial territory to reach Indians. Records from Saco, Falmouth, and Brunswick show that a crucial battleground in this struggle to remain in their homeland was waged on rivers. As in the case of Polin, loss of that fight in court and in war seemed to have played a significant factor in the removal of his people to Canada.

The unconquered Wabanakis to the east watched the gradual dispossession of their western relatives with close attention. When they eventually made treaties in the 1794 and 1796 with the American state of Massachusetts they sought to avoid a similar fate. To satisfy the unalterable tide of Euroamerican expansion, Penobscots and Passamaquoddies signed treaties

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[468] "Letters of Col. Thomas Westbrook and Others, Relative to Indian Affairs in Maine," *New England Historical and Genealogical Register* 49 (1895): 191; Trask, *Westbrook Letters*, 183–84; MA 41:232–37; Smith Journal quoted in Goold, *Portland*, 207–08.
[469] Goold, *Portland in the Past* (Portland, Maine, 1886), 211; Willis, *Journals*, 146–47.

which ceded much of their land. Importantly, however, they insisted on retaining ownership of islands in their major rivers and the right to fish and travel unmolested on those waterways. The insistence on this point shows an awareness learned from past experiences that as long they retained control of their river, they could remain on their ancestral territory. By the 1740s, Wabanakis in western Maine had lost their grip on the region's rivers, and as a consequence their land as well.[470]

The loss of fish in New England's rivers precipitated the land sales or dispossession of New England's Native peoples living under British rule. By the eighteenth century, Indians understood how European conceptions of property differed from their own cultural practices, and through painful experiences learned how to safeguard their titles in a world now dominated by colonizers.[471] River fish acted as a leg on a stool upon which Native Americans sat on their territory in the face of disease and military losses. Without fish, the stool came down. Before colonization, Wampanoags, Nipmucks, and Wabanakis gathered near river areas because the fish and transportation there made survival easier. When the rivers changed shape and fish left, the benefit of living there left as well. It is no coincidence that Indian presence in Natick, Hassanamisco, and western Maine plummeted shortly after the fish stopped returning to the rivers there as they had for millennia.

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[470] Micah Pawling, "Wabanaki Homeland and Mobility: Concepts of Home in Nineteenth Century Maine," *Ethnohistory* 63, no. 4 (2016); "…assign to said Indians the privilege of fishing on both branches of the river Schoodic without hinderance or molestation and the privilege of passing the said river over the different carrying places thereon." 1794 Treaty between the Passamaquoddy Tribe and the Commonwealth of Massachusetts; *Acts and Resolves of Massachusetts, 1796–97* (1896), 339; DHSM, 8:127–32.

[471] Ian Saxine, "Properties of Empire: Indians, Colonists, and Land Speculators on the Maine Frontier, 1713–1763" (PhD diss., Northwestern University, 2016).

Chapter 6: Dammed: The Destruction of Colonial New England's River Fisheries

"[S]e[e]ing the Natives of America were chiefly susteynd by the fish, let not us who succeed them think or expect to live comfortably without the Help of fish, w[hic]h God has provided for ye nourishment of ye inhabitants of America." William Briggs, 1710[472]

When Benjamin Franklin took a tour of Scotland and Ireland in 1771, he was disturbed to find "The Bulk of the People Tenants, extreamly poor, living in the most sordid Wretchedness in dirty Hovels of Mud and Straw, and cloathed only in Rags." His mind flashed back to his childhood, and "the Happiness of New England, where every Man is a Freeholder, has a Vote in publick Affairs, lives in a tidy warm House, has plenty of good Food and Fewel, with whole Cloaths from Head to Foot." Franklin's idealistic image of his birthplace more accurately reflected the New England of his youth. The misery of Ireland was not comparable to New England, yet the number of disenfranchised "strolling poor" had increased in Franklin's native land considerably after his childhood.[473]

By the close of the seventeenth-century, the bulk of colonists living in southern New England had rid themselves of the threat of Native American attack, allowing them to shape the environment along their cultural notions of order. The world Benjamin Franklin's generation was born into was one of relative abundance and personal independence: land ownership rates were high and communities could easily care for the poor among them. In the following decades,

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[472] William Briggs, "The Ease of Fish in Taunton," circa 1710 in Proprietors Records Books, p. 1, Old Colony Historical Society, Taunton, Mass. (hereafter OCHS).

[473] Benjamin Franklin to Joshua Babcock, Jan. 13, 1772. http://founders.archives.gov/documents/Franklin/01-19-02-0004 [accessed Apr. 4, 2018]; Gary B. Nash, *The Urban Crucible: Social Change, Political Consciousness, and the Origins of the American Revolution* (Cambridge, Mass.: Harvard University Press, 1979); Kenneth Lockridge, *A New England Town: The First Hundred Years* (New York: W. W. Norton, 1970) and "Land, Population and the Evolution of New England Society," 75; Douglas Lamar Jones, "The Strolling Poor: Transiency in Eighteenth Century Massachusetts," *Journal of Social History* 8, no. 3 (1975): 28–54.

however, two developments would transform this world. New Englanders' penchant for having children in the double digits outpaced the supply of land which forced their children to migrate or eke out a dwindling subsistence on a smaller farm. The growth of urban centers along with increased participation in Atlantic markets incentivized farmers to specialize to meet demand, causing them to stray from sustainable husbandry practices. The independence which Benjamin Franklin remembered, and foreign observers admired, was becoming increasingly out of reach for New England's children as the region's natural abundances disappeared in the face of increasing population and resource exploitation.[474]

An important marker of this transformation during Franklin's lifetime was the disappearance of fish from New England's rivers. Reengineering New England's waterways from diffuse to concentrated energy networks destroyed sea-run fish migrations and other river-sourced fertilizers. This robbed nature of its regenerative powers and forced small farmers holding to subsistence agriculture to shift to unsustainable profit-oriented practices. Their fields would lay abandoned by the mid-nineteenth century, their soil exhausted from decades of overproduction and not enough larding. The phenomenon of vanishing river fish radiated from colonial population centers in southeastern New England during the late seventeenth century to northern New England in the nineteenth. Small rivers which could be easily crossed by milldams were the first to experience these losses. Larger river stems such as the Connecticut and Merrimack were seriously overfished, but the lack of dams on them until the nineteenth century allowed the annual spring runs to endure a few more decades. New Englanders fought, often

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[474] Philip J. Greven, *Four Generations: Population, Land, and Family in Colonial Andover, Massachusetts* (Ithaca: Cornell University Press, 1970); Christopher Clark, *The Roots of Rural Capitalism: Western Massachusetts, 1780–1860* (Ithaca: Cornell University Press, 1990); Allan Kulikoff, *The Agrarian Origins of American Capitalism* (Charlottesville: University of Virginia Press, 1992); Christopher M. Jedrey, *The World of John Cleaveland: Family and Community in Eighteenth-Century* (New York: W. W. Norton, 1979); Daniel Vickers, *Farmers and Fishermen: Two Centuries of Work in Essex County, Massachusetts, 1630–1850* (Chapel Hill: University of North Carolina Press, 1994); Robert A. Gross, *The Minutemen and Their World* (New York: Hill and Wang, 1976), 68–94.

alongside their Indian neighbors, to preserve fish runs. However, these fish-interests lost to nascent industrialists and their influential political allies who sought to concentrate the benefits of waterpower at specific sites. Much like the Indians before them, once fish-loving colonists were deprived of access to river water they soon lost their economic independence, if not their land as well. [475]

Historians have observed that two distinct societies emerged over the course of the eighteenth century in New England. The first group lived along the coast or navigable waterways. These people drew much of their income from trade in the Atlantic market and were focused on expanding profits. The other group inhabited inland areas of New England, were mostly subsistence farmers, and operated in a traditional socially-rooted barter economy. It is important to note that the distinctions between these two groups were not starkly drawn. Merchants and tradespeople on the coast were neither divorced from a socially-oriented moral economy nor amassed sums of wealth later industrial-capitalists would, and rural farming communities were hardly opposed to engaging in the Atlantic market when given the opportunity.[476] Regardless, waterways connected people operating on either end of the traditional

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[475] The first dams on these large rivers in the turn of the nineteenth century were built primarily to create canals to improve transportation for vessels of deeper berths. Mills shortly followed, and fish fast disappeared. Joint Special Committee Report on the obstructions to the passage of fish in the Connecticut, Merrimack, and Saco Rivers, Mass. Senate, no. 8 (Boston, Jan. 1866), 34–38.

[476] James A. Henretta, "Economic Development and Social Structure in Boston," *William and Mary Quarterly* 22, no. 1 (1965), 75–92 and "The Morphology of New England Society in the Colonial Period," *Journal of Interdisciplinary History* 2, no. 2 (1971): 379–98; Paul Boyer and Stephen Nissenbaum, *Salem Possessed: the Social Origins of Witchcraft* (Cambridge, Mass.: Harvard University Press, 1974); Fred Anderson, "A People's Army: Provincial Military Service in Massachusetts during the Seven Years' War," *William and Mary Quarterly* 40, no. 4 (1983): 499–527; David P. Szatmary, *Shay's Rebellion: The Making of an Agrarian Insurrection* (Amherst University of Massachusetts Press, 1980), 1–18; John J. Waters, "Family, Inheritance, and Migration in Colonial New England: The Evidence from Guilford, Connecticut," *William and Mary Quarterly* 39, no. 1 (1982): 64–86; Gregory Nobles, "The Rise of Merchants in Rural Market Towns: A Case Study of Eighteenth-Century Northampton, Massachusetts," *Journal of Social History* 24, no. 1 (1990): 5–23.

moral economy and developing market economy. Arguments over how to best use river energy during the eighteenth century brought these two factions into conflict.

The disappearance of fish from New England's rivers took over two hundred years and occurred sporadically in a way that defies a coherent visual progression. However, the process repeated itself in a familiar pattern. First a milldam producing goods for a growing population or external markets went up on a river, usually a tributary. As research in aquatic biology bears out, in the absence of a suitable fishway, these dams of only a few feet denied access to the lion's share of fish from spawning grounds upstream.[478] Colonists who valued the fish either for fertilizer or food clamored for the dam or dams to be removed, or for a passageway to be built to preserve the fish runs. If the colony did not grant the milldam an exemption from existing laws protecting fish, mill owners were required to allow a fishway to be built. With few exceptions, these fishways were either not built, poorly constructed, or not maintained. Local justices of the peace and courts generally proved incapable or unwilling to enforce directives to protect fish runs.

Conventional explanations for the disappearance of New England's once mighty fish runs point to growing population and the appearance of industrial-type iron mills as the culprit. Scholars identify the moment of critical mass for these several factors as the turn of the nineteenth century, with Daniel Vickers even asserting that "In 1800, alewives, shad, and salmon visited all of the region's many rivers every spring and summer to spawn in considerable numbers."[479] This chapter will show that fish had largely disappeared from most of southern

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[478] Hall, "historic impact of dams;" For a visual of habitat loss to dams before the nineteenth century, see Mattocks, "Damming," 716. It is worth noting that these scientific studies' focus on dams overlooks the significant impact of overfishing, particularly with nets.

[479] Vickers, "Those Dammed Shad," 686; Gary Kulik, "Dams, Fish, and Farmers: Defense of Public Rights in Eighteenth-Century New England," in *The Countryside in the Age of Capitalist Transformation: Essays in the Social History of Rural America*, eds. Steven Hahn and Jonathan Prude (Chapel Hill: University of North Carolina Press, 1985), 25–50.

New England's rivers well before the turn of the nineteenth century, and more importantly, that people's traditional relationship with river energy had been severed as well. Despite rising population and a changing economy, the demise of New England's once legendary fish runs was primarily a failure of the colonial state to responsibly regulate the resource.

Historians also point to the early republic as the moment when the state began favoring economic growth over property rights, overturning common law tradition which bound mill owners to preserve fish runs.[480] In fact, this debate over fish had essentially been settled in practice by the end of the colonial period. In Massachusetts, the colony granted legal precedent to mills over fish passage as early as 1746. The overwhelming majority of the dams which killed fish were traditional saw, grist, or fulling mills which ostensibly served public agricultural needs, not privately-owned industrial mills that began proliferating in the late eighteenth century. Lax enforcement resulted in illegal dams and overfishing. Such a situation was hardly the inevitable byproduct of population growth and industrialization, however. Some communities successfully protected their fish runs by rigorously enforcing conservation measures and holding scofflaws accountable. But in most places this was not the case. When the value of fish runs were weighed against milldams in the early republic, mill owners had already tipped the scales by killing off most of the fish in southern New England. The lack of a strong enforcement arm and changing economic attitudes doomed southern New England's mighty fish migrations decades before America gained independence.

The debate surrounding fish on New England's rivers during the eighteenth century was wound up with determining who best managed New England's waterpower—individual farmers

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[480] Morton J. Horwitz, *The Transformation of American Law, 1780-1860* (Cambridge, Mass.: Harvard University Press, 1977), 34–42, 47–53; Steinberg, *Nature Incorporated*, 31–38; Cumbler, *Reasonable Use*, 66–69; Judd, *Common Lands, Common People*.

or the commercial class. English common law enshrined waterways as a space for social use, not private ownership, and the many laws passed in colonial legislatures reflect a commitment to preserving access to all. However, the *de facto* reality was different. First through negligence and poor enforcement, commerical interests ultimately determined themselves to be the best stewards of New England's waterpower, maintaining that the economic activity of their mills was of more social benefit than fish. Central to this argument was the belief that waterpower's potential to spur economic growth should not be sacrificed for the concerns of the poor. Once empowered members of a community reached this pro-mill determination, dams went up, the diffuse properties of rivers disappeared, and common people could no longer interact with rivers on their own terms. Accessing the water necessary for survival in New England henceforth required traveling to specific sites and going through proto-industrialist intermediaries to experience its "benefit," either through wages from toiling in these mills or more indirectly through increased market-oriented economic activity. The shape of rivers and people's relationships with river spaces and that had been practiced for eons were severed. The shift in a river's flow bespoke how the commonwealth ethos upon which New England communities were founded had passed like water over a dam by the turn of the nineteenth century.

Fish in Colonial American Society

Despite erasing Native American names from river sites, early colonial activities beside streams largely mirrored their Algonquian forebearers: they valued the diffuse properties of rivers. Settlers located their planting grounds in fertile river valleys and celebrated the arrival of fish up the region's many waterways every spring, just as Indians did. After depending on river fish for survival in the early stages of colonization mentioned in chapter two, settlers tried to

replicate English farming practices in New England. The differences in soil and climate between Britain and New England required farmers to adapt, and river fish played a crucial role making that transition possible.

New England's thin acidic soil needed a steady supply of fertilizer to yield crops. As Brian Donahue has shown, English husbandry practices involved a highly sophisticated practice of crop rotation and was largely sustainable. Traditionally, cattle provided the manure. New England's long winters made that difficult because cows were sheltered during the colder months, keeping them off fallow fields. The abundance of river herring each spring made up the difference by supplementing New Englanders' meager manure supply. Heaps of festering fish carcasses proved essential because the region's unforgiving soil required constant larding. In 1632 residents of Watertown received emergency permission to erect a weir on the Charles River for "falling very short of corn the last year, for want of fish." Dogs so frequently unearthed these fish for their own enjoyment that Haverhill ordered that "all dogs shall have one leg tied up" and if a dog was caught "scraping up fish in a cornfield" the owner had to pay a fine of fifteen pence.[481]

New England's climate also made English-style agriculture difficult. The region's scorching summers wilted crops and the longer winters required colonists to stow away greater food reserves. Much like Indians after a poor harvest or a long winter, farmers depended on the calorie-dense fat and protein found in spring fish runs to push them into summer. New Englanders experienced early success exporting flour to the Caribbean in the first half of the seventeenth century. In 1664 a "blast" or fungus attacked the wheat crop which afflicted harvests in the following years. Henceforth, New England became a net importer of foodstuffs.

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[481] Donahue, *Great Meadow*; Winthrop, "History of New England," 1:86; *Haverhill and Bradford, their Representative Business Men and Points of Interest* (New York: Mercantile Illustrating, 1894), 7.

Uncooperative soil meant that New Englanders needed fish to feed themselves more than their southern neighbors in New York, New Jersey, and Pennsylvania who enjoyed richer soil which enabled them to export their food surpluses to Atlantic markets.[482]

Communities saw spring fish runs as an important source of food, especially for the poor. The landless who migrated to the interior, or further upstream of the waterways which emptied into the ocean, depended on these fish as they sought to establish their farms. On the Maine frontier in 1775, colonists in the town of Winslow repeated the experience of their Puritan grandfathers from the previous century. Just like Plymouth, they reported that half the families in the town had "neither Bread nor Meat, but are entirely supported by Fish" which ascended the Kennebec River. To guarantee access, local government purchased land astride waterfalls or other prime fishing sites so all citizens could be given the chance to fish.[483] River fish were even apportioned to those who could not net them in person. Many New England towns guaranteed widows and the elderly a set number of bushels of fish from the yearly catch.[484]

Older citizens reminiscing about spring fish runs in the nineteenth century reckoned that fish accounted for one third of their yearly meat supply. The fish calories caught at prominent waterfalls "were distributed through the country," attracting people from as far as fifty miles away.[485] The following poem, delivered at the centennial of Manchester (formerly Derryfield),

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[482] Thomas Hutchinson, *History of the Colony of Massachuset's-Bay*, 1:229; Percy Wells Bidwell and John I. Falconer, *History of Agriculture in the Northern United States, 1620–1860* (Washington D.C.: Carnegie Institution, 1925), 42–46; For Pennsylvania, see James T. Lemon, *The Best Poor Man's Country: A Geographical Study of Southeastern Pennsylvania* (New York: W.W. Norton, 1972). New Englanders might have been utilizing their waterpower advantage by purchasing New York grain, milling it in Connecticut, then reselling it in Barbados for a tidy profit. NYCD 5:58.

[483] DHSM 14:265; MHJ 11:354; Fredrick W. Coburn, *History of Lowell and its People* (New York: Lewis, 1920), 1:62

[484] "Alewives," in *Maine: An Encyclopedia*, http://maineanencyclopedia.com/alewives/ (accessed Apr. 27, 2018).

[485] Joint Special Committee Report on the obstructions to the passage of fish in the Connecticut, Merrimack, and Saco Rivers, Mass. Senate, no. 183 (Boston, Apr. 1865), 5.

New Hampshire's founding, rhapsodizes on the impact fishing on the Amoskeag Falls had on the town.

> From the eels they formed their food in chief.
> And eels were called the "Derryfield beef."
> And the marks of eels were so plain to trace.
> That the children looked like eels in the face.
> And before they walked it is well confirmed.
> That the children never crept, but squirmed.[486]

Derryfield was not alone in referring to its river protein as beef. Fish caught in other communities with prominent fishing spots received the nickname "pork" or "beef." Such names likely originated from the fact that spring fish replaced the meat supply exhausted during the winter. Cattle were slaughtered in autumn and their meat was important calorie source for colonists through the bitterly cold months when almost all food sources died or took cover. Making the meat last through New England's long winters could be a challenge, especially for poorer families with less property. The arrival of herring, shad, salmon, and other fish were a welcome relief, and an important source of energy which got small farmers through the year.[487] Importantly, this source of meat took little effort to obtain. People used terms such as "ease of the fish" or described how rivers brought "Fish near to many of our doors" to indicate that unlike other sources of food in which they needed devote effort to cultivating or hunting, river fish were a boost to their yearly caloric balance sheet because they took virtually none of their own energy to collect. This energy was absorbed either directly on their dinner plate or indirectly by sowing it among their crops.[488]

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[486] William Stark, "The Praise of the Lamper Eel," *Colonial Magazine* (Aug. to Dec., 1854): 54.
[487] Sarah F. McMahon, "A Comfortable Subsistence: The Changing Composition of Diet in Rural New England, 1640–1840," *William and Mary Quarterly*, no. 1 (1985): 34–38.
[488] DHSM 15:70; "we are supplied with salt fish at our doors." *Collections of the New Jersey Historical Society* (1846), 1:279.

Spring fish also bolstered colonists' yearly incomes in both barter and cash economies. The journal of eighteenth-century New Hampshire farmer David Patten lists his annual visits to the Merrimack River's Amoskeag Falls to catch fish. Patten haggled with river fish to settle debts and generate revenue which preserved his status as an independent farmer for himself and his children.[489] Patten's life straddled two worlds. The first was the Indian world he had only recently inherited, which survived in the Wabanaki name for his fishing site—Amoskeag, meaning "good fishing place." In only a few decades after his death, the area would be unrecognizable to him, as the rocky falls would disappear behind large dams which channeled water over wheels, enlivening machinery in huge textile mills. The town straddling the Amoskeag Falls would change names again, this time to Manchester, after the industrial hub in England. During Patten's lifetime, the smog-choked streets of Manchester, England were an ocean, and a world away. What connected him to that future was his commodification of the fish he caught. Although his transactions were local, that practice would not last.

The arrival of spring fish runs were tremendous moments of conviviality for colonists who spent the long New England winter cooped up in their homes. Prominent fishing spots usually near large waterfalls attracted people from neighboring towns and counties for stretches of several weeks when the fish were running in April and May. Local inns burst at the seams as people congregated at this momentary spike in river energy. Temporary shanty towns soon appeared. People from all walks of life abandoned their usual employments and headed to the river, carrying bags or towing carts for lugging their catch home. While waiting for their turn to dip their net, people amused themselves with "trials of skill" and even watched plays. Characteristic of many early American gatherings, rum was not in short supply. Fishermen from

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[489] *Diary of Matthew Patten, of Bedford, N. H.* (Concord, N. H.: Rumford Printing, 1903), 95, 172, 215; Vickers, "Dammed Shad," 691–97.

neighboring towns exchanged friendly banter from across a river or from perches in the falls, often playing pranks on each other out of a "propensity for fun and sport." Ministers ventured to these spring fishing assemblies to preach, likely aiming their message at the "idle, the intemperate and the dissipated" folk more attracted to the falls for the "drink and frolic" than the fish.[490]

Spring river runs reinforced the commonwealth ethos which pervaded early Puritan communities.[491] They also kept the poorer sort going, providing them with means to feed themselves during the leanest time of year, stay out of debt, get the most out of their land, and ultimately maintain control over their economic lives. In celebrating the bountiful distribution of fish to all members of the community, these Euroamerican spring fish gatherings bore striking resemblance to the Indian ones which they had only recently succeeded.

Unsustainable Practices

Subtle yet important differences distinguished river fishing in the colonial period from the earlier Native American one. Rather than consume river herring, alewives, salmon, and sturgeon locally as Indians had done, colonists exported this fuel source abroad. River fish were cured with salt, packed in barrels, then injected into the wider Atlantic fish market, which had been unsustainably harvesting fish for centuries.[492]

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[490] Sylvester Judd, *History of Hadley* (Springfield: H. R. Huntting, 1905), 308–09; Coburn, *History of Lowell*,1:62-65; *A Discourse utter'd in Part at Ammauskeeg-Falls, in the Fishing-Season. 1739* (Boston: S. Kneeland and T. Green, 1743); C. E. Potter, *The History of Manchester, formerly Derryfield, in New Hampshire* (Manchester, N. H., self published, 1856), 642.
[491] Stephen Innes, *Creating the Commonwealth: The Economic Culture of Puritan New England* (New York: W. W. Norton, 1995); Michael Zuckerman, *Peaceable Kingdoms: New England Towns in the Eighteenth Century* (New York: W. W. Norton, 1978).
[492] Bolster, *The Mortal Sea*.

Towns in the shadow of urban centers were the first to export their produce. As cities such as Providence and Boston grew from increased involvement in the Atlantic economy with activities such as shipbuilding, the ring of towns feeding these port communities expanded. To provide a sense of scale, Boston's mid seventeenth-century population of three thousand souls had more than doubled by 1700. Twenty years later, the population doubled again to twelve thousand people. River fish from as far away as the Connecticut River began appearing for sale in Boston to feed the growing city. When Boston sought to impose some order on country hucksters ambling into town, mongers of "Fish caught in Rivers, Ponds and Brooks" were limited in 1734 to selling their slimy product within the confines of the city's new market. In contrast, ocean-caught fish could be sold on wharves, or essentially anywhere else. This requirement for river fish was likely in response to a disorderly rush of rural farmers into the city trying to exchange their catch for commodities circulating in the Atlantic market.[493] By the early eighteenth century even small bony alewives, caught in nets by the scores and usually destined for the soil as fertilizer, were being exported to the West Indies to feed enslaved laborers.[494]

Colonies and especially towns passed conservation measures aimed at sustaining the resource of river fish almost from the outset in the seventeenth century. These laws sought to prevent individuals from hoarding the benefits of river energy in its several forms for themselves. People granted the rights to build a watermill or weir needed to provide passage for fish, or were required to sell fish they caught at a set price. To further prevent the commodification of fish, towns such as Middleborough, Massachusetts banned the selling the fish to out-of-towners. Some towns limited river fishing to certain days of the week or times of

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[493] Karen J. Friedmann, "Victualling Colonial Boston," *Agricultural History* 47, no. 3 (1973); *New England Weekly Journal*, June 15, 1736; *At a meeting of the freeholders…on Wednesday April 24. 1734. For setting up, and regulating a public market* (Boston: Samuel Gerrish, 1734), 4.
[494] *Boston Evening-Post*, Dec. 29, 1735.

the day. At particularly popular fishing sites, people could only take a set amount of fish. Towns empowered wardens to enforce these regulations. Poachers and scofflaws were reported to local courts where they could be punished with fines or whipping.[495]

Local conservation measures worked much better in theory than practice. Since rivers wound through property lines and were often used as the very lines of demarcation, determining the proper ownership of a fish was difficult to ascertain in the English legal system. Fish could not be regulated like cattle when they transgressed the abstract property boundaries which structured the colonial property regime. Whereas colonists could point to brands inscribed on the animals' skin to bring delinquents to court for damages, no similar justice could be rendered for fish. When the actions of one town or individual affected people sharing a waterway, evidence was harder to gather, making it much easier for poachers or millowners to ignore the law or cast doubt on their guilt.

Fundamentally, colonial conservation measures proved feckless because of poor enforcement capacity. The fish wardens appointed by towns and counties usually lacked support from their own communities, making the execution of their duties very difficult, or unwise politically. Communities uninterested in protecting fish could elect fish wardens who would not serve. Some Massachusetts river towns did not elect fish agents at all. This stood in contrast to the regulation of deer, which after 1739 was enforced by town-appointed deer reeves. Towns such as Medfield, Massachusetts on the Charles River elected deer reeves at each yearly town meeting in March, but no such official for fish.[496] Local legend remembers that fishermen from Dracut, Massachusetts would set their nets on the Merrimack River's mighty Pawtucket falls on

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[495] Michael J. Maddigan, *Nemasket River Herring: A History* (Charleston: Natural History Press, 2014), 34–48.
[496] AR 2:988–90; Town Record Book, 1665–1742, Medfield, Massachusetts, 347, 349; Sherborn Town Records, 1674–1781, Sherborn, Massachusetts.

days when fishing was outlawed. These nets blocked shad from ascending the Concord River to Billerica. After fish wardens upstream in Billerica tore down the nets, they spread them on the ground to dry. The next night, Dracut men rode to Billerica, "gathered up the nets, brought them back, and reset them" in the Merrimack. In his history of Middleborough, author Thomas Weston makes reference to "people who would probably not care to have their names known" who had hiding places where they could elude wardens, allowing them to fish during restricted days at places such as next to a dam. Since "convictions were so infrequent" people saw these "escapades" of deceiving or eluding fish wardens as much sport as the fishing itself. The indignities of chasing fishermen, often teenagers, through the woods in addition to the unpopularity of punishing offenders, made vigorous application of the law not in the interests of appointed fish wardens.[497]

The final, and perhaps most serious threat to the fish, were dams. Initially in the seventeenth century this was not much of a problem. Yet by the turn of the eighteenth-century millers were building more dams on waterpower sites near New England population centers. Early colonial watermills which turned gristmills, swung hammers for fulling cloth, or spun saws only needed the energy of a small stream to operate. These mills at most required a head of water only few feet in height, which frequently did not extend entirely across a waterway. In many instances, if a colonial-era mill was located close enough to a large waterfall, no dam at all was required to push the millwheels at the desired pace. The majority of fish pulsing up New England's larger waterways each spring could negotiate these new obstacles relatively well.

The quantity of energy demanded by New England's colonists rose with their population. The nature of this demand for energy itself would change as enterprising colonists began

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[497] Samuel Adams Drake, *History of Middlesex County, Massachusetts* (Boston: Estes and Lauriat, 1880), 2:56; Thomas Weston, *History of the Town of Middleboro Massachusetts* (Boston: Houghton, Mifflin, 1906), 1:500.

harnessing waterpower to aid them in making paper and iron. This resulted in not only more dams on rivers, but also higher dams. By looking at a spike of petitions regarding flooded fields and obstructed fish passage in Massachusetts, Rhode Island, and Connecticut, this increase in dam building occurred in the first four decades of the eighteenth century. People built taller dams to increase the fall of a waterway which drew more energy from the river—pouring water over a millwheel spins it faster than having the water pass under the wheel. This allowed millowners to produce more flour, lumber, or cloth for New England's growing population.

Even though improvements to dams in the early eighteenth century may seem minimal by the standards of the industrial mills one hundred years later, their ecological impact was significant. When citizens along the Farmington River in Connecticut complained in 1764 "that the fishery is almost wholly come to an end," they placed blame on the new dams powering saw and grist mills. Only twenty-five years earlier petitioners remembered that "a man with a small scoop net might from day to day catch a barril an hour." New dams powering traditional agricultural mills, despite likely standing less than ten feet high, wiped out the fish. Matthew Gillett remembered "great many Sammon" on the Farmington, but since Thomas Walling of New Hartford improved a milldam sometime after 1751, he witnessed "the sammon keep a springing to git over but could not git over it."[498] Israel Loomes recalled that even before Walling's improvements, he saw "after a suden shower of rain…for some howers the sammon springing up in the stream" below the dam but they "could not git over in no one instance as I could observe." Walling's dam also blocked the less athletic river herring who lacked the leaping capabilities salmon did. Gillet attested that he had "not for many years either seen or heard of an

[498] CTA Industry, ser. 1, 2:244a, 246a, 247; *History of Litchfield County, Connecticut* (Philadelphia: J. W. Lewis, 1881), 409.

alewive being seen at the said dam."[499] A similar controversy on the Pawcatuck River the next year on Connecticut's border with Rhode Island indicated that several dams had been recently built there as well resulting in the "fish have[ing] allmost Left" the river. The offending dams powered gristmills and were all in towns near where the Pawcatuck emptied into the ocean. Their location indicates dam owners sought to extract the maximum amount of energy from the river since their mills were in places where the volume of waterpower was greatest. The days of partial dams on diminutive tributaries had passed, as the energy demands of colonial New Englanders had clearly increased.[500]

Although waterpower was becoming more spatially concentrated by dams, waterpower was still socially controlled for the benefit of the community. The vast majority of New Englanders were farmers, and mills which performed agricultural labor were an integral part of their economic success just as fish runs were: gristmills produced food much like a fish weir did. Millowners needed the permission of the community to operate, and their prices were strictly regulated. Agricultural mills also only operated seasonally, usually following the harvest in autumn so they could open the dam to accommodate fish in the spring. But as colonial energy demands grew with the population, confrontations between fishermen and millers indicate that it became harder to maintain both forms of energy extraction. These confrontations were ultimately a debate on how to best use waterpower for the community.

By the early eighteenth century New England towns were shifting away from the seasonal agricultural rhythms of life toward one more in sync with external markets. The appearance of non-agricultural mills making iron and paper on New England's streams during

[499] CTA Industry, ser. 1, 2:248, 246a–46b, 244a.
[500] CTA Industry, ser. 1, 2:243, 245.

this time bespoke this transformation.[501] The social benefits of such millworks were less apparent than the agricultural grist and fulling mills which processed things neighboring farmers supplied them. The proprietors of iron and paper mills were focused on turning a profit more than serving their community. Iron or slitting mills used waterpower to pump bellows which kept the forge at the blistering heat necessary to liquefy metals. New England possessed a great deal of untapped ore, and by the mid-eighteenth century William Douglass reported that "Iron is a considerable article in our manufactures." Owners of these mills wanted to operate year-round since opening their dams for fish cut into their bottom lines. This was particularly true during the April-May fish runs, as snowmelt guaranteed a steady supply of water necessary for turning machinery.[502]

Historians have located the decline in fish populations at the close of the eighteenth century when New England's rivers underwent aggressive industrialization. They have overlooked that one century before these developments, river fisheries in southern New England already faced existential threats. Growing population and an expanding market economy incentivized unsustainable fishing and greater dam construction. Local government recognized this problem and attempted to regulate, but poor enforcement prevented these laws from having a significant impact. Even the efforts of those towns which enforced these regulations could be undone if an upstream neighbor neglected enforcement or simply did not value the fish as they did. The appearance of early industry into New England, out of sync with the energy needs of the agricultural community, posed a new dynamic which cared even less about preserving fish than poachers.

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[501] Margaret Ellen Newell, *From Dependency to Independency: Economic Revolution in Colonial New England* (Ithaca, N. Y., Cornell University Press, 1998), 57–58; James Moore Swank, *History of the Manufacture of Iron in All Ages: And Particularly in the United States from Colonial Times to 1891* (Philadelphia: American Iron and Steel Assoc., 1892), 108–19; *Journal of the Franklin Institute* (Philadelphia, 1834): 12:217–18; Thomas Hutchinson to Board of Trade, Sept. 1769, MA 25:330.

[502] *Edward Randolph Papers*, 2:238; William Douglass, *A Summary Historical and Political…of the British Settlements in North-America* (1748, repr., London: R. and J. Dodsley, 1760), 540.

Taunton

Over the course of the eighteenth century, New England colonial governments passed progressively stricter regulations to protect river fisheries. People were restricted from fishing on certain days. Seines went from requiring a license to being banned entirely. Fines shot up astronomically in Massachusetts during the early eighteenth century from forty shillings to ten pounds. People appointed by the community to enforce fish laws were required to serve or suffer harsh penalties. Such a legislative trajectory bears witness to a flailing state, struggling to address a crisis that was worsening despite all its efforts. River fish kept declining because New England's colonial governments preferred local solutions to a regional problem. With river fish populations already decimated by mills and dams, proponents of mills argued that the benefit of their millworks to the community outweighed the value fish had, conveniently omitting that they had already tipped the scales by ignoring the law. In the densely populated areas of southern New England, dams and mills extracted more energy from the region's powerful rivers than ever before, but that tremendous benefit also reached fewer people than ever as well.

Colonial society was divided over whether milldams or fish should be protected, or whether river energy should be concentrated into the hands of millers or diffusely distributed to the population. Even small dams could detrimentally impact migrating fish populations if passage was not provided.[503] English common law tradition allowed people to tear down mills or weirs if they blocked fish or flooded property. Such license preserved the multitude of ways people accessed river energy. However, New England colonies passed laws against such

[503] David L. Belding, *A Report upon the Alewife Fisheries of Massachusetts* (Boston: Wright & Potter, 1921), 48–49.

vigilante action, preferring a more orderly method of adjudicating these disputes.[504] Usually courts appointed committees to assess the situation, then report back with a legally binding solution. These decisions did not always preserve traditional rights. Since colonial governments provided inducements for the erection of mills to spur economic growth, they were hesitant to destroy offending dams. Combined with the absence of voluntary compliance with conservation laws and poor enforcement, river fish had nearly disappeared from many rivers in southern New England by the early eighteenth century. Owners of mills, not the poor, now accrued disproportionate economic benefit from the region's waterpower.

Disputes concerning dams and fish existed across colonial New England, yet few of the petitions survive and much illegal activity was understandably not recorded in documents. However, evidence of one episode in Taunton, Massachusetts has survived remarkably well.

Taunton sits on a river of the same name which falls in Narragansett Bay after winding thirty-seven miles along a southwesterly course. Colonists from nearby Plymouth founded the town in 1637 where a four mile tributary the Wampanoags called Cohannet flowed into the Taunton River. "Ancient standers" in the early eighteenth century remembered that hundreds of Wampanoags in April "with great Dancings and shoutings" would convene at Cohannet "and set up theyr tents about that place until the season catching Alewives was past." The river's small size corralled alewives and herring into a narrow space making it possible for even children to scoop fish with dip nets. Although the meaning of Cohannet is unclear, the name of a tributary only a few miles upriver is Nemasket, meaning fishing place.[505] Taunton's founders valued Cohannet's fish as well as the its ability to drive a mill, with later residents claiming "that the

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[504] AR 1:578; Kulik, "Dams, Fish, & Farmers," 27n6.
[505] OCHS 1:1; On the uncertain translation of Cohannet, see P. W. Leland, "Algonquin, or Indian Terms, as Applied to Places and Things," in *Collections of the Old Colony Historical Society*, 3:89–90.

very Reason of bulding[*sic*] our town where it is, was that small River to sett a gristmill on."[506] Indicative of this shift in use, the colonists changed the stream's name from Cohannet to Mill River, where a gristmill was shortly in operation. Another dam powering one of America's first iron forges was built in the town on smaller tributary of the Taunton River in the 1650s.

Initially it seems river herring and dams coexisted peaceably in Taunton. Native Americans valued the iron mill since it provided them with a local source of metal and were friendly with the Leonard family who operated the forge. During King Philip's War in 1675–1676, Wampanoag sachem Metacom reportedly instructed his warriors to spare Taunton and the Leonard family on account of their good relationship.[507] However when a sawmill was built on the Mill River in 1659 dispute quickly followed. The town granted John Macomber and Henry Andrews the privilege to build a sawmill providing it did not obstruct others' traditional uses of the river by flooding the gristmill or blocking the fish. It seems that the sawmill blocked fish because in 1664 William Witherell, Gyles Gilbert, Josepth Gray, and Samuel Linkorn were fined twenty pounds each for attacking the sawmill at night, stealing "away severall thinges, and did great spoile" leaving a "libelous paper" for the sawmill operator John Walker presumably justifying their extralegal action. The defendants "complained of great wrong, sustained not onely by them, but by the whole towne of Taunton" from Walker "neglecting, according to engagement, to leave a sufficient passage for the herrings or alewives." Although the dam breakers were fined, the court ordered Walker to "speedily take course that a free passage" be made over his dam. Apparently this did not resolve the issue, for Witherell, Gyles, and Watson

[506] OCHS 1:52.2a.
[507] Peres Fobes, "A Topographical Description of the Town of Raynam," in CMassHS 1st ser., 3:171.

sued the sawmill owners two years later. Although the court did not award them monetary compensation as they requested, Walker was again instructed to open the dam for fish.[508]

Several factors could have killed the fish: the dam might have been too high, Walker perhaps did not build a fishway, or the sawdust poisoned the fish. Regardless, the 1660s confrontation showed that preserving fish runs depended on the consent of millowners. John Walker ignored local and colonial directives to open his dam for fish in the spring. Colonists who depended on the fish seemed to have little recourse for persuading Walker to comply with the law than violence. In the end, the Plymouth court fined the dam breakers, not the dam owners whose illegal actions precipitated the violence. If a dam owner refused to give passage to fish, only energetic opposition could compel him to relent. A petition one hundred years later on the New Hampshire frontier from Daniel Sanborn shows how important the consent of dam owners was. Sanborn wanted to erect a dam across the Winnipesaukee River. He admitted that a wing dam which only blocked part of the waterway was sufficient to power his mills, but a full dam was "Necessary to his Reaping Any profit." He promised it would be a "low dam" with it being "Lower in some Places so as to give Sufficient Depth of water for the free Passage of fish." Sanborn assured colonial authorities of his good faith, saying he was "fully Convinced of the Great Advantage of their having a free passage." It is telling that, rather than being safely assumed, Sanborn offered his personal opinion that following the law was a good idea. It seems that Sanborn's opinion on fish was all that was keeping him from building a taller dam and blocking the fish. Many other mill owners preferred to accrue greater profits for themselves than open their dams to accommodate shad and salmon. The wording of Sanborn's petition indicates that the goodwill of millowners was all that was keeping them from ignoring the law. If Sanborn

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[508] Emery, *History of Taunton*, 91; Nathaniel B. Shurtleff, ed. *Records of the Colony of New Plymouth* (Boston, 1855), 4:55–57, 7:131–32.

blocked enough fish, then his only threat was collective community resistance, which usually entailed years of litigation.[509]

Controversy revisited Taunton's Mill River in 1701 when two petitions reached Bristol County court, this time regarding the town's gristmill. The mill's owner, Robert Crossman, was the consummate pro-mill advocate. Crossman had been a part owner of the sawmill which caused so much trouble in the 1660s. Nearly forty years later, he now owned Taunton's gristmill, which he had improved substantially by raising the dam to four feet enabling him to add a fulling mill to make cloth. A petition headed by Anthony Newland accused Crossman of not providing passage for fish "which hath been time out mind contrary to the Rules and maxims of the law and Nation." Newland and his associates cited common law tradition which guarded against a single person monopolizing waterpower. Another petition from farmers described the "damnifying" impact the loss of river fish had on them, specifically "for our land." Taunton farmers claimed that with fish they could grow "such a crop of corn that wee might have had enofe for our selves and ben abel to sell to others." Now without fish, "many of us are forst to bye our corn." Their account testifies to the crucial position river fish held in their yearly economic balance sheet; fish or the absence thereof was the difference between independent subsistence or economic dependence.[510]

Robert Crossman pled ignorance to the petitioners' complaints. This is very unlikely in the extremely intimate, local context of colonial New England communities. Crossman even confirmed that some of the petitioners used his fulling mill. People complained to Crossman, and he simply refused to follow the law, or the spirit of it, by lowering his dam or building a fishway. Petitioners claimed so many fish "died below sd [Crossman's] daam" it "caused the River to

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[509] "Petition of Daniel Sanborn for License to Build a Dam," NH State Papers, 18:573.
[510] OCHS 53.2, 54.1; NH Laws 3:408.

Stinck" Barring remarkable deficiencies in his olfactory capacities, Crossman must have noticed this.[511]

Regardless its effect on fish, Crossman forwarded an argument for his milldam that would be repeated throughout the century: his mills were a greater service to the community than the fish. He claimed that his mills were "to ye benefit of allmost every particular famaliy in the town &c: who are one or other, dayly coming for meal Or cloath." This was in contrast to the "so few," he claimed, who were complaining about the fish. Furthermore, Crossman asserted that raising the dam was the town's initiative, not his, saying "many of our town have urged me to do what I have don for the publick good," particularly the "chife men of our town have incouradged me." Popular support for his mills was evident during a recent flood, when if not "for the helpe of my good nighbours" his dam would have been washed away.

Importantly, Crossman placed the responsibility to build a fishway on the petitioners, not himself. This was somewhat of a remarkable position considering he was the one who had altered the natural energy dynamic of the Mill River. Crossman held the fish petitioners in contempt, complaining that if they "had spent halfe so much time to have help me to make a way over my dam as thay have to sook to destroy it, the fish might have had good & free pasage" which would "put a stop to such a fishay noyse." He claimed that he had tried to cooperate with the petitioners to build a fishway, but that they refused to help him. Crossman asserted that he eventually built a fishway on his own, but that it washed away in a flood. Even if this was true, Crossman was uninterested in making a fishway large enough to allow the fish to pass, claiming he could not "make a way threw my dam" to the petitioners' specifications without "Ruoning my

[511] John Demos, *A Little Commonwealth: Family Life in Plymouth Colony* (Oxford: Oxford University Press, 1970) 186–88; Robert Crossman to Justices of the Peace for the County of Bristol, reply to dam and alewives question, Apr. 4, 1701, *Proprietors Books One*, 56 a & b, OCHS; Ibid., 54.1.

whole concerns there." If colonists wanted to keep fish passage, not only did they need to organize and commit their own labor to build a way through every new dam appearing on New England's rivers, they also had to be constantly vigilant that dam owners maintained their fishways. The energy benefit, or "convenience" of the fish which made them so valuable was markedly reduced if people had to constantly travel and labor to ensure their continuance.[512]

The 1701 Taunton fish dispute provides evidence of a divided community wrangling with an approaching market economy. Waterpower was a major arena of this larger cultural debate. Those with the most to gain and lose in this market economy were very concerned with who could access river energy in its multiple forms. Traditionally, this tension did not exist because a mill served explicitly public needs and could share waterpower with others if the community deemed it right. However, even in a non-industrial mill like Crossman's, growing population and greater participation in outside markets increased energy demands to levels which posed an existential threat to fish. Crossman claimed Taunton would suffer if his dam were pulled down since it would also destroy "so good a thing as a cloathing trade now begun amongst us." Crossman noticed that many of the names in the petition against him were people who used his fulling mill, indicating that many likely had a foot in both external and local markets. For millers like Crossman, the risk of upsetting his neighbors was worthwhile if it meant more income from his mill. Despite all his claims that his mill served a "publick good," he also added that he hoped his investment "in time it would pay me again." Although the farmers' petition indicates that they too engaged in the market economy, it also shows that their primary concern was to gain a competency, or "enofe for our selves."[513]

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[512] OCHS 56a–b.
[513] OCHS 56a; 54.1.

The Bristol County court ordered Crossman to make passage for the fish, upholding the decision from the 1660s. But their main concern was to "prevent future trouble," not enact a policy which would compel millowners like Crossman to closely follow the law. Complaints again resurfaced. In 1707, Andrew Smith complained that Crossman's dam had for four years prevented alewives from ascending the Mill River, and that Smith's neighbors approached Crossman to offer in helping make a fishway, but he had "refused." Smith explained to the court that they needed "saltwater fish" for their "poor land" to "produce very good Rank Corn."[514]

In 1710 a petition brought before the county court set off yet another rush of documents in Taunton's Mill River dispute, this time producing some of the best articulations of the dimensions involved in the battle over dams and fish in New England. With no clear resolution, the situation was growing explosive—petitioner James Leonard Jr. apparently declared in a "fury" that he would tear down Robert Crossman's dam. 107 Taunton citizens in favor of keeping the dam sent a petition to the court arguing that the milldam was of greater benefit to their town than the fish, especially since it had recently "abundantly multiplied" claiming that more than five hundred people used the gristmill, including "poore people as well as others forced to travill into other towns, and Remoat parts for meal." They saw the decrease in fish as the natural result of increasing human population, and that the benefit of the fish "would be very small and precarious" and desired not to be "distressed all the year, under some pretence of fish once a year." The amount of energy taken by the mill was so much greater than the fish that it was not worth the trouble to preserve them. The fish petitioners were cast as lazy and their opponents chastised them by saying "if there were a greater spirit of labor and industry, and the spirit of contension and division that is with us, would cease, God would abundantly bless our

[514] James M. Cushman, "Cohannet Alewives and the Ancient Grist Mill at the Falls on the Mill River," *Collections of the Old Colony Historical Society*, 5:82-83; OCHS 1:55.2

husbandry." In this view, mills were a better use of waterpower while fish were a waste of time that stank up the town. The pro-mill faction conveniently overlooked that they were comparing much depleted fish populations after decades of illegal obstructions—in truth the fish only stank because they were dying below the dam.[515]

A letter from William Wetherell concurred with his Taunton neighbors in support of the dam. Now an old man in 1711, Wetherell was one of the men convicted for sabotaging a sawmill on the same Mill River in 1664 for failing to provide passage for fish. Unlike his younger neighbors, he remembered when alewives and herring came up the Mill River plentifully. But times had changed. "[A]llas" Wetherell wrote, "the people are multiplied" and "as many fish as ever there were it could not supply one tenth part of ye people." Instead of a source of relief, the fish were now primarily "a means to create quarialls & lawsutes," declaring "we are Really better without them."[516]

Another elderly resident of Taunton thought differently. Around the time of the 1711 case, William Briggs composed a screed lamenting the loss of the fish. Although the county court once again required Crossman to provide a passage for fish over his dam, defenders of the fish could see this was a struggle they were not winning. Briggs believed "stopping the free passage of the fish" to be the greatest "hurt & damage of the Town (especially of the poor in the Town) than anything else that has befallen Taunton since the English setled there." Poor families who needed to purchase corn during the winter and spring could supplement their diet with the alewives which freely came up each year, which Briggs called "a sort of fish appropriated by Divine Providence to Americans." The number of poor in Taunton had been increasing in the early eighteenth century, and Briggs saw the loss of fish as a direct cause. Briggs recounted that

[515] OCHS 52.2a–b; 53.1
[516] OCHS 91.1

"it was difficult to perswade the agrived people to forbear acting of violence to open a passage for ye fish and to keep in the path of ye law for y[thei]r relief." Although tradition and law protected their rights, the "process in Law…came to a full stop as it did, is mysterious & unaccountable." In fact, "the liberty of the fish to pass," as it was often phrased, had been preserved. County or colonial government could not force Taunton to enforce these decisions if enough influential people did not care to voluntarily comply with the law. The result was a heart-wrenching scene. Briggs described that "the Cry of the poor every year for want of the fish in Taunton every year is enough to move bowells of compassion in any man."[517] The energy source which kept early settlers alive during their first years in New England was now off limits to them.

The loss of river fish was not inevitable as mill dam apologists and historians have portrayed it to be. William Briggs pointed to the nearby community of Middleborough which lay upstream of Taunton and also possessed a valuable tributary ideal for catching alewives and herring. Briggs reported that Middleborough would "not permit any dam for any sort of mills to be made across their River to stop the course of the fish." Briggs valued the yearly value of river fish in Taunton at one hundred pounds. For Middleborough residents, this value outweighed whatever larger milldams offered. Briggs claimed that Middleborough residents would not "part with the priviledge of the fish, if any would give them a thousand pounds, and wonder at yr neighbouring Town of Taunton that they suffer themselves to be deprived of so great a priviledge."[518] Unlike Taunton, Middleborough residents strictly regulated their herring fishery. Fish agents who failed to fulfill their duties were prosecuted, and when iron mills were put on the river in 1734, the town successfully compelled them to halt operations during the spring so fish

[517] OCHS 1.
[518] OCHS 1

could pass. The assiduous application of the law by Middleborough residents preserved the spirit of Nemasket River's Algonquian name of "the fishing place" well through the nineteenth century, and earned the fishery there a reputation as a "herring town" across the colony.[519]

Fish and Mill Acts

The alewife dispute in Taunton was not an isolated incident, as all New England colonies passed laws between 1710 and 1719 to regulate dams or nets on the region's many rivers.[520] Complaints about blocked waterways and the disappearance of fish colonists had come to rely upon poured in "daily." Massachusetts required that licenses granted by county courts be obtained to set up weirs or seines. Connecticut banned weirs from the Quinebaug and Shetucket Rivers entirely. Rhode Island empowered town councils "to take care for the Preservation of the Fishery of the Rivers." Such action shows that New England governments were committed to maintaining traditional privileges on rivers by ensuring that local communities, not individuals, determined how waterways would be used. Passing legislation which applied across the entire colony was aimed to make a uniform policy which would stave off the type of fractious incidents that divided communities such as Taunton. Yet this first round of mill acts kept enforcement to town or local governments and authorities who hitherto proved incapable or unwilling to follow their own local laws, as in Taunton. The mill acts merely identified the problem while maintaining the *status quo*.

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[519] Maddigan, *Nemasket River Herring*, 34–48; Samuel Briggs, *The Essays, Humor, and Poems, of Nathaniel Ames* (Cleveland, 1891), 69; The fishing communities in Cape Cod also valued the river fish more than their Massachusetts contemporaries. Strict regulations also produced a respectable herring supply through the nineteenth century. George Brown Goode, *The Fisheries and Fishery Industries of the United States* (Washington D. C.: Government Printing Office, 1887), 1:670–72.

[520] AR 1:641–62, 729–30; PRCC 5:506; Batchellor, Albert Stillman, ed., *Laws of New Hampshire* (Concord, N. H.: Rumford, 1913), 265–66; R. I. Laws (1730), 110–11.

These early fish laws provided exceptions to the very thing causing the problem: dams. Upon complaint to authorities, weirs and nets could be torn down on the spot, but such an action could not be executed on a dam. Massachusetts granted an exception in their inaugural 1710 fish law to any "lawfully and orderly made" milldam. If mill owners could be held liable for damage, it was only for flooding—which either inundated valuable meadowland needed for grazing cattle or backed up another mill. To large landowners, fish were implicitly less valuable than these two concerns. Massachusetts, and other colonies, did not want to create laws which discouraged the people who "at great cost and expence" built mills which were "serviceable for the publick good, and benefit of the town, or considerable neighbourhood" through processing agricultural products. But such protections privileged landowners' use of waterpower, especially those exporting products into urban areas or the wider Atlantic market, over the "Poor of the Neighbourhood' it sought to protect.[521]

Furthermore, colonial New England lacked the policing force to surveil the community. Justices of the Peace held a largely honorific position and were not well paid, so little incentive existed to vigorously enforce laws. By the time it took to find a Justice of the Peace, have him visit the offending dam, then finally have him convene with another justice to render a decision, the damage had already been done since the fish visited the waterways for only a few weeks. In 1739, Samuel Barton and Samuel Bennet complained that Justices of the Peace often lived "at great Distance" from dams and were "very much unacquainted" with local circumstances. Even in the unlikely event that a justice of the peace went by a dam to make sure it was providing sufficient passage for the fish, he almost certainly lacked the local knowledge to determine

[521] AR 1:729; R. I. Laws (1730), 110–11; PRCC 3:185.

whether a fishway was effective or simply ornamental.[522] The punishments for poaching were also minimal—usually forty shillings. Even if a poacher was caught, it took two justices of the peace to render a decision. But the "Limitation of the Number of the Justices or Wardens, to Two or more, hath been found very inconvenient," leading Rhode Island to change that law in the 1760s when most of the herring had already been blocked by dams or fished out.[523]

The first round of Mill Acts passed between 1710–1719 were ineffective in preventing confrontations on New England's waterways. As more pressure was put on fish migrations either through dams or overfishing, brazen negligence of the law and vigilantism persisted because the Mill Acts lacked the teeth to dissuade those from illegally killing fish or provide fish advocates legal recourse. Fish could only be preserved if a community was well enough organized to police dam owners who frequently ignored the law. They also needed the endurance to wait out lengthy arbitration battles, which was difficult since fish advocates were often the poorer sort and lacked legal resources.[524]

The North Billerica Dam controversy demonstrates the ineffectiveness of the mill acts. Billerica empowered Christopher Osgood to erect a dam across the Concord River in 1709 for a grist mill. Osgood's milldam was positioned only four miles from where the Concord empties into the Merrimack River, blocking fish from twelve miles of their spawning ground. In 1720, 150 petitioners from towns upstream complained that the dam blocked fish and flooded their land, which violated the mill acts of 1710 and 1714. The General Court agreed with the petitioners and ordered the Billerica Dam demolished. Christopher Osgood then began his

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[522] Chester H. Smith, "The Justice of the Peace System in the United States," *California Law Review* 15, no. 2 (1927); Petitions to the Rhode Island General Assembly, Rhode Island State Archives, Providence [hereafter R. I. Petitions], 3:4.
[523] R. I. Laws (1772), 10; For a surviving example of local enforcement of fish acts see *Records of the Court of Nathaniel Harris…Together with a paper by F. E. Crawford* (Watertown, Mass., 1938), 49, 56–57, 86.
[524] MA 17.483–86.

strategy to resist this order by swamping his opponents in litigation. When commissioners came to remove the dam in 1722, Osgood sued them for trespass. Osgood lost the ensuing court case. However, in open defiance of the General Court, Osgood rebuilt his dam two months later. The petitioners renewed their efforts, organizing their towns and presenting another petition in 1723, but this time only complained that Osgood's dam blocked "the privilege and benefit of the fish." It is possible that Osgood built a shorter dam to avoid flooding his upstream neighbors' land. But as has been shown, even dams of a few feet can significantly prevent the number of alewives and herring from ascending waterways if no passage is given. Again, the General Court sided with the petitioners against Osgood, with their reasoning being that the dam flooded upstream meadows. For the span of two months the court required Osgood to clear forty feet of his dam to accommodate the fish. When commissioners visited his dam, they reported that Osgood had done so. But the very next year in 1724, once again in open defiance, Osgood refused to open his dam, audaciously claiming "he was not obliged to." Only when upstream citizens again reorganized in opposition did Osgood finally relent; he reportedly opened his dam henceforth during the spawning seasons.[525]

The Billerica dam episode on the Concord River shows that the burden to enforce the mill acts lay entirely upon citizens. Osgood was not exceptional in his flagrant defiance of laws designed to protect fish. Only the indefatigable persistence of farmers affected by his dam finally compelled Osgood into compliance. His unwillingness to compromise indicates how dearly he valued the Concord River's waterpower—only a dam which extended across the entire waterway would suffice, and even slowing his operations for a few months to let fish pass was unacceptable to him. The odds were stacked against fish advocates. Although large in number,

[525] Middlesex County Folio Collection, Massachusetts State Archives, Boston, 262-III, 92x-IV, 94x-III; MHJ 3:113, 164.

they were primarily agricultural people, and spread across wide distances. Their passion for preserving fish runs was also usually inversely related to wealth. Such poor people had less education about the law, and fewer resources to wage protracted legal battles with millowners such as Osgood, who not only had capital but also connections among leading men in his community who stood the most to gain from the increased economic activity watermills produced. At the same time, Osgood's ultimate defeat showed that the disappearance of fish was not inevitable. Local farmers clearly valued the fish runs and seem to have fastidiously regulated later dam owners since plentiful swarms of fish splashed up the Concord River well into the nineteenth century.[526]

In the face of such formidable legal obstacles, some people took the law into their own hands. Understandably, little evidence survives of the vigilante action taken against dam owners. Disputes surrounding Timothy Sprague's milldam in the 1720s were not over fish, but the episode was well documented and gives a window into how rancorous these disputes could be. Sprague inherited the mill privilege on a small stream which flowed into Spot Pond in Malden, Massachusetts, six miles north of Boston. Since he controlled the flow of water into the pond, adjoining farmers could get upset when Sprague adjusted the water in ways that inundated or dried out their land. Another enemy appeared when John Greene built a mill on same stream which shunted waterpower from Sprague, stalling his grist and fulling mills. In 1727 Timothy Sprague complained to the General Court that neighbors under the veil of night broke down his dam, redirected the watercourse, and jammed up his machinery for good measure. Sprague at great expense dug a "Cave to hide in" to ambush the saboteurs. Apparently some were punished

[526] *The New England Farmer* 14, no. 6 (1862): 254–55; 274–75; 280–82. MA 113:497; Brian Donahue, "'Dammed at Both Ends and Cursed in the Middle:' The 'Flowage' of the Concord River Meadows, 1798–1862," *Environmental Review* 13 (1989): 47–67; Wilson Waters, *History of Chelmsford, Massachusetts* (Lowell, Mass., 1917), 421–22.

by a local justice, but only to the paltry amount of "three shillings." Sprague hired men to watch his property at night, who soon found themselves "in real danger of their lives" when several disguised men with "clubs and other weapons" threatened Sprague's assistants. John Green of nearby Stoneham used another strategy: hiring fourteen-year-old boys to tear down Sprague's milldam, reportedly telling them "they were so young, nobody would hurt them for so doing."[527]

Sprague built a guardhouse next to the dam to protect it from vandals. Besides having to constantly repair his dam, Sprague also had to attend to unending lawsuits and counter lawsuits between himself and John Greene over rights to the waterpower. During this time Sprague nearly died when he confronted Jabez Allen for tearing rocks off his dam. Allen fired at him with buckshot, hitting Sprague in the legs. Fortunately by the 1730s Sprague had recovered from his wounds and secured his mill rights which he enjoyed with much fewer interruptions. However, in 1765, while tending to one of the dam's sluices, he was bitten by a poisonous snake and died. It took nearly four decades, but the dam finally killed him.[528]

Dam disputes were inspiring vigilantism in Connecticut as well. Conflict emerged shortly after 1757 when Roger Hooker purchased a dam powering a gristmill on the Farmington River. The previous owner had not kept the dam in good repair, leaving it "decayed and so leaky that the use of s[aid]d Mill was much hindered in a Dry Time." Prospective mill customers complained of the mill's low productivity. Encouraged likely by a combination of his neighbors' requests or potential mill revenues, Hooker repaired the dam "to great Benefit of the Publick." Not everyone agreed. Hooker either raised the dam or extended it entirely across the Farmington

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[527] MA 17:483–86. Green was likely aware that a 1692 law against destroying mills only applied to those over sixteen years of age. AR 1:52.

[528] Silas Dean, *A Brief History of Stoneham, Mass* (Stoneham: Sentinel Press, 1870), 15; MHJ 10:333, 13:196; Douglas L. Heath and Alison C. Simcox, *The Lost Mill Village of Middlesex Fells* (Charleston: History Press, 2017), 40–46.

River which held back more water in order to glean more energy for crushing grain. The leaky dam likely operated similarly to a beaver dam in that there were probably openings or low clearances over which fish could pass. Residents upriver of Hooker were "disgusted" by his repairs because it flooded land and blocked fish. First, the fish advocates hauled Hooker before the local justice of the peace and Hartford County Court, both of whom, at least according to Hooker, rendered the "surpizing Judgement" that his dam needed to come down to make way for the fish. In an attempt to stay the pickaxes and shovels poised precariously over his dam, Hooker tried "cultivating pease" with the petitioners by constructing "at considerable expence…(what Fishermen Judged) a convenient Provision for the Passage of Fish" which was completed during the winter months of 1759 in preparation for the coming spring's run of salmon, herring, and shad.[529]

Not all parties were pleased by the compromise Hooker struck to keep his dam. A similar fish trench had been made nearby on the Blackstone River forty years prior in Rhode Island, and opinions on its success were mixed. Fish apologists opted to remove Hooker's dam completely, as the county court had ordered. On May 8, 1760 Hooker and his neighbors were shocked by the appearance of "several Indians" who attempted "to cutt down and totally demolish s[ai]d Mill dam. Hooker and his neighbors were then "obliged to repel Force by Force." Rumors spilled across the Hartford County that the "Indians were clandestinely and secretly instigated to s[aid]d daring attempt with a promise of Indenimification and Reward by the uneasy owners of some Lands…who were the real Authors of the aforesd Prosecution against y[ou]r Memorialist.[530] Similar to the children who cut into Timothy Sprague's dam, the Indians who formed the *ad hoc*

[529] CTA Industry, ser. 1, 1:196–99.
[530] Ibid., I:196a–96b.

demolition crew in Farmington, Connecticut were an ideal choice for anti-dam agitators because they lacked taxable property and were thus more difficult to prosecute.[531] Their willingness—or more likely enthusiasm—to tear into Roger Hooker's dam also speaks to how Native Americans in southern New England continued to depend on river fish through the eighteenth century.

Recognizing the ineffectiveness of earlier mill acts to either protect fish or avoid rancorous disputes, Rhode Island and Massachusetts passed harsher restrictions on milldams in 1735. This would inaugurate ten years of legislation where colonies struggled to find a solution to the crisis of disappearing fish. Both of the 1735 acts required dam owners to provide fish passages and abrogated power from towns to adjudicate these disputes. If a dam owner did not provide sufficient passage for fish, locals could assemble a committee to bring the offender in line with the colony's law. Rhode Island protected dam owners from spurious accusations by charging accusers if the committee judged the fishways sufficient. Massachusetts' 1735 mill act had some disconcerting loopholes. First, specific dates were not provided for when fishways needed to be open, instead leaving it to the subjective discretion of dam owners to only open their dams when the alewives "usually pass," and for a span of only thirty days. Additionally, millowners could only be held liable for damages "what the town or towns may have offered and tendered to pay to the owner or owners of such dam" what the dam owners payed for the sluice. Although requiring fishways, a town more committed to dams instead of fish had more wiggle room to ignore the law, to the detriment of everyone upstream who wanted fish. Both colonies

[531] In his memorial, Hooker worried that "Indians or some persons of no estate may proceed to Demolish sd Dam thro' the secret solicitations of the Owners of said Lands." The Connecticut General Assembly passed an order that "any Indian, Negro, Mulatto, or other person" who damaged Hooker's dam would be sentenced to one year in prison. CTA, Industry, ser. 1, 1:196b, 199b.

recognized that declining fish populations were hardest on the poor and required half of the fines from the new acts distributed among the poor.[532]

When the 1735 Massachusetts act went up for renewal in 1742, legislators passed even stricter regulations on dam owners. Such action must have been into response to continued complaints of declining fish populations and dam owners circumventing the law. The 1742 act required dam owners to provide fish passage during April and May, doubling the amount of time mills operated on reduced waterpower. The General Court also required towns to appoint wardens to inspect fishways.[533]

Petitions from millowners soon came rushing into Boston seeking exemptions from this new law. Clearly, the prospect of an extra month without exclusive rights to harness a waterway's energy threatened their bottom lines. Perhaps the teeth given to the fish laws in 1742 also worried dam owners that it would be more difficult to ignore. The penalties for failing to abide by these new fish laws were steep—fifty pounds. The energy needs of Massachusetts' communities by the 1740s had reached the point where many dam owners found accommodating laws aimed to preserve traditional runs of fish impossible. Government liberally granted exemptions—wooed by the potential economic growth mills created. Such behavior sent mixed messages about preserving fish runs. Although they were trying to accommodate both groups, the colony's growing economy made such a middle way increasingly untenable.[534]

In 1746 the Massachusetts General Court granted an important concession to millowners. Dams on rivers with no evident fish migration did not need to provide passage for fish. Additionally, and more importantly, if local officials determined that if providing fish passage

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[532] AR 2:786–88; R. I. Laws (1744), 185–87.
[533] AR 1087–88; R. I. Petitions, 4:70, 105;
[534] MHJ 20:37, 55, 221; 22:111, 197

was not "of greater general benefit" than keeping mills operating at full capacity, then dam owners would have "freedom from all obligation to make or keep open any passage."[535] Such reasoning echoed the arguments of Robert Crossman when fish-loving farmers wanted his dam removed in 1701. It seems by the 1740s that colonists had already eviscerated the fish runs from a considerable number of Massachusetts' waterways. Dam owners accomplished this by ignoring the complaints of fishermen clamoring for their traditional privileges. The 1746 law gave county courts the legal authority to destroy everyone's access to the fish if a majority or enough influential citizens deemed that mills were of "greater general benefit," or a better use of their waterpower. If the willful negligence of millowners killed fish, their actions were rewarded when, in the years following their blockage of fish, they could argue that fish did not inhabit their waterway, or that the diminutive amount of fish was not as useful to the community as their mill.

Such was the case on the Indian Head River in Plymouth County. In 1749 the inland town of Hanover complained that a number of dams blocked the passage of fish, particularly in Pembroke. The county court, following the 1746 act, ruled that "The Making and Keeping a suitable Passage for the fish through the Several Dams up the River aforementioned will be of much Greater Damage to the said Owners and Occupants then it will be of General benefit to the People." The court's decision indicates a major shift in Massachusetts' approach to fish passage: the residents of Hanover were not entitled to fish, and their natural rights to the fish could be abrogated by towns distant from them. In effect, nearby towns like Pembroke were sucking river energy away from poorer, more agricultural communities like Hanover.[536]

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[535] AR 3:268.
[536] MHJ 26:140, 160, 162; David Thomas Konig, *Plymouth Court Records* (Wilmington, Del.: Michael Glazier, 1978), 3:11.

Despite increasingly strict laws regarding fish passage enacted by the Massachusetts General Court, these conservation measures still allowed local communities considerable levity to ignore the fish laws if the town government was more in favor of mills. The General Court empowered local committees appointed by town or county governments to enforce the mill acts, and although the General Court recommended they be "disinterested" persons, lawmakers in Boston could only trust that this was actually carried out. These local committees determined how long fishways were to stay open as well as determine what constituted a suitable fishway. Although required to preserve shad runs, these local groups determined how a community would consume energy. Such local determinations produced a variety of decisions based on differing economic interests. Communities which were generally closer to the sea by the mid eighteenth century were more concerned with supplying external markets, while frontier communities were focused on eking out a competency from New England's thin soils. Even though distance could separate these communities, if just one community refused to lower their dams in the spring—and judging by the petitions from communities such as Ipswich, many did not—then they cut off fish for everyone upriver.[537]

Fish proponents portrayed themselves as victims, as people who were being deprived of something "appropriated by Divine Providence to Americans." Building dams which blocked the fish, in their view, was an abomination which violated God's will. They conveniently overlooked that they too manipulated the natural environment to increase the amount of energy they could extract from rivers. Whether by detonating chunks off waterfalls or by transporting fish into nearby streams, colonists did all they could to increase the number of fish in rivers. Larger anadromous fish such as salmon evolved to have explosive, spring-like muscle spasms which

[537] AR 2:1087, 3:133–34.

allow them to leap over mighty obstacles. The smaller anadromous species like alewife and blueback herring cannot jump very high, instead relying on speed to surmount obstacles. They charge at a waterfall to counteract the river's velocity, and finding a steady gush of water through the falls, accelerate up and over the rocks. This is usually not a problem during spring since snowmelt and heavy precipitation leave New England's waterways engorged. However, river herring cannot overcome larger falls. Consequently, salmon are known to spawn farther upriver than alewives and herring. Colonists observed this, and wishing to enjoy the "benefit" of swarms of fish calories, destroyed obstructing rocks.[538]

Colonists also introduced fish into waterways where there had been no fish migration at all. Benjamin Franklin told the Finnish botanist Peter Kalm that this father Josiah had observed that herrings only ascended one of the two rivers he lived by. Displaying an ingenuity that he passed onto his son, Josiah netted some spawning fish, removed their roe, "and carefully carried it across the land into the other river." The experiment proved to be a success, as "every year afterwards they caught more herrings in that river."[539]

To counteract dams, fish-loving colonists built fishways around the obstacles. A trench was usually the favored method. When a dam was erected on the Pawtucket Falls in 1718, William Sargent dug a trench which had formerly been a small river filled in by a bridge. Sluices, or the gates which controlled the amount of water behind the dam, could be opened which provided more water and a lower barrier to help fish pass. To be successful fishways need to cover the height of the dam on a more gradual gradient which gives fish less demanding

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[538] MHJ 17:48; AR 12:579; John Russell Bartlett, ed., *Records of the State of Rhode Island and Providence Plantations* (Providence, 1861), 6:293; Diary of Matthew Patten, 111.
[539] Peter Kalm, *Travels into North America*, trans. John Rheinhold Forster (London: T. Lowndes, 1772), 1:229–30; *Essex Gazette* [Mass.], Feb. 27, 1770.

heights to clear and time to rest in between attempts. Since colonial era dams were only a few feet high, building suitable fishways did not pose the formidable challenges post-industrial dams do.[540]

Colonial fishways proved incapable of sustaining fish migrations for a variety of reasons, but it is first worth mentioning that even their predecessors in the twenty-first century have not greatly solved the problem of dams. Instead of a wide natural fall, fishways are a much smaller aperture through which they can pass. Furthermore, pollution emanating from mill activity, especially sawdust, can poison the entry points through which fish need to pass.[541]

However, the greatest reason why fishways ultimately failed during the colonial area was the larger problem of inadequate vigilance. Trenches or sluices are not natural and need to be constantly maintained to ensure they mimic the proper flow and that the passage is clear of obstacles. Colonists possessed the local knowledge, gained either through experience or from Native Americans, of what conditions the fish needed to surmount obstacles. The conditions varied river to river, and year to year based on the weather. Colony-wide legislation which required millowners to lower their dams on certain dates or maintain openings at specified widths could prove not applicable in different places since they were unacquainted "with the nature and circumstances of the…Rivers and Dams." Scientists have shown that the nature of the water flowing beneath an obstruction is imperative if fish choose to ascend.[542] This created a situation where a millowner could follow the letter of the law and block fish, and not be held

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[540] Natural trench-like fishways around low dams seem to be fairly effective. S. Marina Steffensen, et al., "Biological effectiveness of an inexpensive nature-like fishway for passage of warmwater fish in a small Ontario stream," *Ecology of Freshwater Fish* 22, no. 3 (2013): 374–383.
[541] Ana T. Silva, et al., "The future of fish passage science, engineering, and practice," *Fish and Fisheries* 19, no. 2 (2017): 340–62; Judd, *Common Lands*, 157–61; J. Jed Brown, et al., "Fish and hydropower on the U.S. Atlantic coast: failed fisheries policies from half-way technologies," *Conservation Letters* 6, no. 4 (2013): 280–86.
[542] R. I. Petitions, 4:3; Anne Laine, "Fish swimming behaviour in Finnish fishways," in *Proceedings of the International Symposium on Fishways '95 in Gifu, Japan, October 24–26, 1995*, Shigeyuki Komura, ed., 323–38.

liable. The narrow openings on these fishways also created a natural weir where fish could be easily collected. Without local opposition, people could collect fish well beyond what other communities considered a reasonable "load."

Much like the fish laws themselves, fishways required strong local regulation to be effective. Without a vigilant official familiar with local circumstances, compliance with the numerous and baroque fish acts was left to millowners or regional justices of the peace. They not only had to be on guard for when various fish species arrived, but also able to open sluices so their spawns could descend later. Since these migrations were tied to the vagaries of water temperature, they could be unpredictable. Millowners must have been supremely annoyed to stop their works or seriously diminish their operating capacity by opening sluices. Interrogating erstwhile fishermen along the Concord River in 1839, they attributed the loss of shad to dams being only left open when the adult fish ascended, leaving "the fry, which go down a month later" to be "stopped and destroyed by myriads."[543] Since millowners generally held the fish and their defenders in contempt, they were ill-suited stewards of the fish. Numerous episodes bear this out.

Several decades after Thomas Westbrook's dam washed away, a surge in settlement in southern Maine followed the fall of Quebec in 1759. Just like fifty years earlier in southern New England, growing population increased energy demand which inspired new attempts to harness the power of the Presumpscot River with dams. And also just like Thomas Westbrook's dam in the 1730s, these dams blocked the ascension of fish each Spring. The agitated voices of upstream fishermen protesting the dams returned, although their accent was different. Instead of Native Americans, by 1777 it was Euroamerican farmers. The Massachusetts General Court responded

[543] Henry D. Thoreau, *A Week on the Concord and Merrimack Rivers* (Boston: James Munroe and Co., 1849), 36;

to the issue, observing that people "still may derive extensive benefits from the fishery" on the river. The word "still" alluded to the fact that the "extensive benefits" of fish runs no longer existed in other parts of the state. The General Court also plainly explained the incompatibility of milldams and fish which they had been witnessing for a century, saying, "the increase or even continuance of which unregulated, for any considerable length of time, must inevitably destroy the annual course of the fish up the said river." Regardless, in 1785 the General Court empowered a local committee to ensure that the "sufficient sluice ways be annually opened in all mill dams erected…in order that the fish may not be obstructed."[544] In July of that year, the committee of three men announced to mill owners in Falmouth's recently-opened inaugural newspaper the date and time when they would appear to inspect their dams. Clearly, the committee wanted to avoid confrontation. An advertisement in September indicates that, much like other mill owners for the past century, they brazenly refused to open passage for the fish. The committee solicited individuals who would open the dams, promising a "generous price" to whomever would take on the task. By October the committee had failed to find anyone and pleaded with inhabitants "in the interior part of the country…whose request the act for opening such sluice-ways was made, and who would be most benefitted by the execution thereof." It is a mystery why nobody opened the dams. Perhaps the people upstream on the Presumpscot feared retribution from the mill owners, or needed to balance the "benefit" of the fish with the benefit the mills gave their families. Regardless, nature resolved this political impasse with a massive flood in late October, washing away the dams.[545]

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[544] MHJ 19:859; *Acts and Laws of the Commonwealth of Massachusetts, 1784–85* (Boston, Wright & Potter, n.d.), 161–63.
[545] *Falmouth Gazette and Weekly Advertiser* [Maine., part of Mass.], Aug. 6, Sept. 17, Oct. 1, Oct. 29, 1785.

The Presumpscot incident shows how the added labor required to keep fishways open greatly reduced the overall benefit the fish once had. If a millowner refused to follow the law or a fishway was poorly maintained, it required upstream farmers to first discover where the fish were being blocked (which became increasingly difficult as the number of dams increased), and then required them to travel many miles to maintain the fishway. This put an extra burden on the poor who most depended on the fish. The 1738 Watertown dam dispute on the Charles River speaks to this, when, despite collecting hundreds of signatures, petitioners failed to notify the accused dam owners of their grievance, ultimately delaying action on their case.[546] Colonists complained about the distances they had to travel to access waterpower if a mill was not nearby. Now it was the fish that were far away—maintaining the great fish runs which were once described as convenient were becoming increasingly more of inconvenience.

Some communities turned to the engine of private enterprise as the best means to secure the fish. By the mid-eighteenth century, traditional forms of community action were not proving up to the task of defending fish against dams even in communities with strong pro-fish sentiments. Places such as Middleborough, Massachusetts began auctioning off exclusive rights to the herring run in 1764. It then became in the winner's interest to fastidiously protect the fish so to catch as many as possible. Towns preserved the communitarian ethos behind fish runs by regulating the price of the fish so they would be affordable. Proceeds from the auction also served the community by going to the town, and were a prized revenue source in those communities which closely guarded their fish from mills and weirs. Middleborough and other towns also banned selling their fish to people of other towns to prevent exhausting the resource and keep the benefit of the fish within their community.[547]

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[546] AR 511–12.
[547] AR 3:66–67, 259–60; Maddigan, *Nemasket River Herring*, 49; *Sketch of Weymouth*, 47–48; PRCC 13:258.

Another sign of the departure from the commonwealth attitude regarding the stewardship of fish runs was the appearance of fish ponds. Historian Strother Roberts has shown that New England farmers were building (or digging) fishponds by the 1730s. This no doubt coincided with the plunge in riverine fish populations in southern New England. Farmers needed the energy from fish as fertilizer or food to make their husbandry work, the goal of which was "to want nothing" or be entirely self-sufficient. Although the demand for fish remained strong, fishponds embodied an important rupture with the past. Unlike rivers which meandered through property lines, fishponds were confined to an individual's property. Besides the prerequisite of abundant land, they also needed a capital investment to construct. Consequently, well to do farmers could afford to enjoy the benefit of fish in artificial ponds after more natural procurement methods in rivers dried up. With their access to fish secured, those fortunate enough to own a fish pond were less likely to join with poorer people demanding that fish runs be protected. Less fortunate landowners living on smaller estates or with fewer resources could not make fishponds, and consequently could not afford the fish that were once free to all.[548]

Despite many mill acts and fish conservation measures passed in the early eighteenth century, people continued to recklessly ignore them. After going through all the trouble to open a passage in Christopher Osgood's dam on the Concord River, people in 1748 were making "great Spoil" on that river by "using Spears in the Night Time" to fish. A 1756 petition sent to the Rhode Island assembly complained that people fished the Pawtuxet River on banned days. In an effort to preserve the fish runs, fishing had been banned Saturday through Monday between April 10 and May 10. Petitioners noticed that scofflaws netted "great Quantities of Fish," and even if they were caught, the small fine barely cut into the "Proffits of their Fishing." In 1766,

[548] Strother E. Roberts, "Esteeme a Little of Fish: Fish, Fishponds, and Farming in Eighteenth-Century New England and the Mid-Atlantic," *Agricultural History* 82, no. 2 (2008): 144, 155–161.

Connecticut's General Court revoked the authority of County Courts to grant licenses for weirs since they were "often found to prove mischievous" in their dispensations of licenses, which had "almost wholly stopt and obstructed the natural course of the fish." Shortly after the law's passage, people in Lyme and Saybrook reported that people were setting seines near the mouths of the rivers, "to the great damage of the public."[549]

A 1755 act passed in Massachusetts acknowledged the shortcomings of earlier conservation laws to thwart "ill-minded persons." Apparently many of the officials who were required to make sure fishways were open refused to serve. It is likely in pro-mill towns that they selected an individual who either was unable to carry out his duty, or willfully let fishways lapse into disrepair. Besides raising fines for poaching, the General Court also banned weirs entirely during the spawning season, only allowing people to catch alewives with scoop nets. But for many parts of colony, this measure was too late. Many of the small streams where Indians and then colonists easily caught herrings and alewives were now clotted with mills.[550]

Taunton sent a petition to the Massachusetts General Court in 1774 which complained that the scoop net regulation prevented them from catching fish. Alewives used to be taken in such manner on the Mill River, but after years of dam building they had for "a number of years past…in great measure left." Now the town helplessly watched as "Alewives pass by their Doors thro the Heart of their Town" in the larger Taunton River. Petitioners wanted to extend the number of nets they could set in the Taunton River since they "apprehend they are entitled by nature to at least as great a proportion of Alewives as the Inhabitants of Middleboro." The Taunton residents then explained that they faithfully opened their dams every spring for the fish, although it "proves very detrimental to the Mills." The well documented confrontations in the

[549] MHJ 24:318–19; R. I. Petitions, 9:103; PRCC 12:498 13:271, 616.
[550] AR 3:809.

first decades of the eighteenth-century suggest a different reality. Taunton chose mills over fish, Middleborough made the opposite choice.[551]

As Taunton's 1774 petition attests, fish runs continued up the rivers of many southern New England rivers, but they were much diminished, and only in larger waterways not yet crossed by dams. People still marveled at the spectacle of innumerable fish every spring, even if they could not catch them as easily. The *Boston Gazette* learned that a Haverhill man, "being a great lover of fish," ate "upwards of a Hundred Alewives in the space of two hours & half" in 1747. In Taunton, a man recovered from a debilitating venereal disease in 1764 and emerged reinvigorated with preternatural savant-like abilities, which the *Boston Evening-Post* demonstrated to their readers with the example that he could determine "how many Alewives went up Taunton River this Spring."[552] Whether these stories were true or not is beside the point—fish migrations were at least familiar enough to New Englanders that it was still a commonly understood metaphor. But even in the waterways fish still visited, their days were numbered. Places where such fish could be easily caught with a dip-net were few and far between. The logic which deprived fish from small streams would be used for larger ones. As energy demands continued to rise in eighteenth-century New England, taller dams on larger waterways appeared and the same mantra of mills being of greater public benefit to the community than fish was employed to justify finishing off these populations. Nehemiah and Caleb Atwood attested that "the Alewives & other Fish had so much deserted" the Pawtucket River in Rhode Island, that when they built their dam in the 1780s "it was not thought an Object to leave open any Fish-ways therein, & that the Law had become quite obsolete"[553]

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[551] MA 87:568–70.
[552] *Boston Gazette*, Dec. 22, 1747; *Boston Evening Post*, June 11, 1764.
[553] R. I. Petitions, 39; *Representative Men and Families of Rhode Island* (Chicago: J. H. Beers, 1908), 2:953.

The Mill Acts, however well intentioned, failed to preserve fish runs in southern New England, leaving many rivers devoid of their traditional finny spring visitors by the mid eighteenth century. A 2018 article in the journal *Nature* studying waterfowl in Africa showed that the greatest indicator determining the success of conservation efforts was effective governance, not the size of human population or pollution levels.[554] Colonial New England's governments lacked a proper enforcement arm to ensure their conservation directives were being followed. Even though they passed progressively stricter measures, they left enforcement in the hands of local authorities, who they themselves admitted were ineffective and "mischievous." The scattered nature of enforcement led to different interpretations of the mill acts, which instituted different levels of compliance based on local interests. The nature of diverging economic interests between eighteenth-century New England towns can be seen in their activities along waterways and how they determined the region's waterpower was of "greatest benefit" to the public. Smaller, self-sustaining agricultural communities chose fish, while growing towns who sold more of their produce externally chose milldams. Unfortunately the same waterway coursed through both of these types of towns, so the actions of a few affected everyone. Since colonial governments refused to take a firm stand on the issue, southern New England's delicate riverine ecosystems buckled under the pressure. Henceforth landowners and capital-rich mill owners would benefit from the region's waterpower, not the poorer sort whose numbers swelled each decade.

Vice, Intemperance, and Alewives

[554] Tatsuya Amano, et al., "Successful conservation of global waterbird populations depends on effective governance," *Nature* 553 (Jan. 2018), 199–202.

While the fish were disappearing from New England's rivers in the eighteenth century, cultural attitudes toward the fish changed simultaneously. Seventeenth-century colonists saw the abundance of river fish as a blessing from God, and many fondly remembered how the arrival of fish saved them from starvation during the first desperate years of colonization. However, as the region's economy shifted away from subsistence and more towards trade, values bent toward an emerging capitalist sentiment that favorably cast behavior which maximized efficiency. This coming world came to appreciate waterpower not only for its ability to make life qualitatively easier, but to quantitatively increase the amount extracted from a waterway to boost production. The annual rite of catching spring fish came to be associated with the worst traits in the rising capitalist order: namely laziness, intemperance, and an inefficient use of time. Lovers of herring were particularly chastised because their use of river energy conflicted with the mills which were driving these cultural changes. Stereotypes of those huddled around the falls as impoverished, drunken, sluggards stuck with fishermen, and were used to justify eroding commonwealth restrictions which guaranteed common people access to rivers.[555]

Although class distinctions in colonial New England were never on the scale seen in Europe, there was growing sense of being either well off or poor by the mid eighteenth century, reflected in closer attention to manners and dress. In this context, a stigma became associated with catching fish on the riverside. By the late eighteenth century, people seen carrying shad were shamed since it was "considered poor men's food." One old-timer remembered during boyhood in the Connecticut Valley at the turn of the nineteenth century that when one Tom Chandler was seen taking shad home to eat, townspeople "bothered him almost to death about

[555] For this phenomenon in a later southern context, see Andrea L. Smalley, *Wild by Nature: North American Animals Confront Colonization* (Baltimore: Johns Hopkins University Press, 2017), 119–54; Harry L. Watson, "'The Common Rights of Mankind': Subsistence, Shad, and Commerce in the Early Republican South," *Journal of American History* 83, no. 1 (1996): 13–43.

it." People in those days could still could catch salmon coming up the Connecticut River. Eating these fish was acceptable, however eating the much more plentiful, yet smaller and bonier shad meant considerable social derision and shame. In the more densely populated areas of southeastern New England, fish like shad were all that was left by the mid eighteenth century. Standing by a waterfall, once a of community event, was now announcing to that community that you could not support yourself.[556]

Mill-supporting colonists attacked gatherers of herring and alewives as people who idly wasted their time. Sensitive that their admonitions could be interpreted as disregard for the poor, they asserted that the calories lost from fish could be compensated with greater "industry" and discipline on the part of the needy. In the early eighteenth century this discipline meant "God would abundantly bless our husbandry, & send us good crops without fish, as he has don." Industrialists at the close of the century pointed out that if the poor were "to receive wages only in proportion to the value of the Fish…they would have great reason to complain of being dealt by with great severity of having spent their time for naught."[557] Mill interests held fish advocates in contempt, referring to their complaints as "incessant stammering," "fishay noyse," and in other unflattering ways. Their arguments ignored the significant calorie percentage river fish held in people's diets. And if there were only "a few scattering herring" left in a river, as millowners claimed, they overlooked their own role in killing the fish by ignoring laws requiring them to share the waterway by providing passage.[558]

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[556] Richard Lyman Bushman, *The Refinement of America: Persons, Houses, Cities* (New York: Vintage, 1993); *Proceedings of the Connecticut Valley Historical Society, 1876-1881*, (Springfield, 1881), 1:16–18; Fish migrations did not last long into the nineteenth century on the Connecticut. "It is a remarkable fact, that salmon, within a few years past, appear to have deserted Connecticut River." Dwight, *Travels* (1821), 1:226–27.
[557] OCHS 52.2a
[558] R. I. Petitions, 33(II).6; OCHS 56a.

Instead of focusing on preserving access to common resources of river fish, New Englanders imposed time work discipline on those most adversely affected by their loss. When Massachusetts' General Court sided with mill interests in the 1738 Watertown dam dispute, the communities surrounding the dam sought to open a workhouse the next year. Although it seems this effort failed, Boston successfully built a separate workhouse in 1739 since "the idle and poor much increased among them." Residents of this workhouse were roused by a bell each morning and "kept diligently at work from Such Hours in the Morning, to such Hours in the Evening." The precise measurement of time, or labor, into hours was a stark departure from the seasonal rhythms in which farmers meted out labor. The workhouse taught its inmates that sustenance was earned in amounts commensurate with time, not given like the fish which used to come up the rivers each spring.[559]

When dam interests and fish-loving colonists butted heads, mill owners frequently cited how their own labor and initiative had improved the waterway, harnessing the energy to produce more than whatever benefit the fish had to people. Whether this was true or not is hard to prove, especially in the colonial period. But in comparison, fishermen had done comparatively little to "improve" the waterway. Although the dams were violating privileges protected by law, by the mid-eighteenth century people were more likely to overlook these violations because tearing down the dams and restoring the fish passage seemed to benefit those who had worked less to extract river energy. The perceived lack of enterprise made it easy for mill advocates to portray catching river fish each spring as a hobby, and not legitimate labor. A 1772 poem entitled "The

[559] Convers Francis, *An Historical Sketch of Watertown* (Cambridge, Mass.: E. W. Metcalf, 1830), 83–84; AR 2:756; Records of the Overseers of the Town of Boston, Reel 12, Massachusetts Historical Society, Boston; E. P. Thompson, "Time, Work-Discipline, and Industrial Capitalism," *Past & Present* 38 (1967): 56–97.

Unhappy Fireside" appearing in the *New Hampshire Gazette* gives a sense of this attitude through the voice of a disgruntled wife:

When Tom approach'd the homely door,
His clam'rous wife began to roar,
You whelp of sin and hell!
Where have you been? gallanting whores?
Or running into ale-wive's [*sic*] scores?
The dev'l and you can tell!

Thus all day long, and ev'ry day
You squander time and wealth away
And at full freedom roam
Whilst I must wallow like a sow,
Providing for your brats and you,
And be slave at home

Since in many parts of colonial New England river fish constituted one third of the food supply, to dismiss such fishing as simply a hobby overlooks the vital impact it had on people's lives. Such attitudes indicate that many New Englanders saw river fishing as an activity with little potential for economic growth, and thus an inefficient use of time. It seemed that many of the grandchildren of the early colonists had little use for the "fish appropriated by Divine Providence to Americans" anymore.[560]

Anyone listening to this rhetoric in eighteenth-century New England would have quickly noticed accusations against supposedly "lazy" colonists fishing in rivers was the same language levied against Indians used to justify colonial landgrabs. As has been outlined in earlier chapters, New England Indians had been fighting for rights to the resources colonists were consuming. The complaints many Indians had about the environmental impact of mills mirrored those of colonists—unsustainable and unequal distribution of resources people needed to survive. The rhetoric colonists used to defend their common rights to rivers also echoed arguments Native

[560] *New Hampshire Gazette* [Portsmouth], Dec. 11, 1772.

Americans had made for the past century demanding open access and even distribution of the region's resources. It is no coincidence that in the mid-eighteenth century "white Indians" begin appearing in woods harassing people. Although these events have been traditionally associated with the advent of the American Revolution, the explanation for the appearance of white Indians has much more to do with New England's past.[561] Many Anglo colonists in the early eighteenth century must have known Native American grievances intimately through interacting with neighbors of Indian descent, serving on the region's frontiers personally, or listening to the fireside stories of elders and friends recalling violent memories that were still very fresh. It is possible that colonial soldiers felt they were staring into a mirror when sizing up their Native American opponents. While visiting New England in 1709, Nathaniel Uring observed that Indians "have tolerable good notions of natural justice." New Englanders must have seen parallels with Indian interpretations of justice in their own appeals to natural rights when confronting London in the 1750s and 1760s over pine trees and taxes.[562]

Small farmers and others who suffered from dams illegally blocking fish must have felt a sense of injustice similar to the Native Americans recently dispossessed from the region. During the 1738 Watertown dam dispute, the petitions calling for fish passage included the names of colonists and Praying Indians. The Narragansett sachem Thomas Ninigret's name was prominent on a 1761 petition to create fish passage around the Pawtucket Falls in Rhode Island.[563] When looking for names to affix to petitions or in traveling to court, colonists also must have noticed that they had more in common with the Indians still in the vicinity than they did with mill owners and colonial authorities. Fish-loving colonists were being dispossessed of property in the same

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[561] Philip J. Deloria, *Playing Indian* (New Haven, Conn.: Yale University Press, 1998), 1–10; Calvin Martin and Steven Crain, "The Indian Behind the Mask At the Boston Tea Party," *Indian Historian* (Winter 1974): 45–47.
[562] *Collections of New Hampshire Historical Society*, 3:164.
[563] MHJ 16:49; R. I. Petitions, 10:153.

method used against Indians before them: on rivers. When forced through desperation to commit vigilante action, donning Native American garb as disguise was a natural choice.

As dams were raised across New England, the mills they powered extracted more energy from the region's streams. Waltham on the Charles River sought and received an exception from the Fish Acts in 1745. Nearly fifty years later, one textile mill in the town produced ten thousand yards of cloth per month and employed two hundred workers year round.[564] The buildings, made possible by waterpower, provided jobs and opportunities for people in greater amount than the Indians or colonists who formerly caught fish there in the spring. But one has to ponder whether the quality of life of these wage laborers was better than the economic independence of their forebearers.

The loss of anadromous fish in the early eighteenth century set in motion ecological and economic consequences which were hard to stop. Although concern was expressed in legislatures about the loss of fish, they were unable to summon the political will to enact an effective conservation policy. Over time, the gradual decline of river fish lessened their importance to the economy which made it progressively easier for industrial interests to lay claim to ownership of New England's rivers by the nineteenth century. Fewer fish eliminated a valuable fertilizer source which contributed to widespread soil exhaustion after the Revolution. By 1800 the wheat crop had disappeared from eastern Massachusetts. The disappearance of alewives and herring not only impacted the stomachs of poor New Englanders, but other fauna which relied on them whose habitats were located by streams pooling at the foot of mountains to

[564] MHJ 22:111; CMassHS 2nd ser., 3:263–64.

deep in the ocean. The energy which sustained these creatures was redirected into millraces which powered growing industry.[565]

Deprived of fish, colonists lost a degree of economic independence. To compensate for the energy they traditionally caught of their own accord, they needed to either develop a trade or find employment. Either of these options cast them into the expanding market economy, upon the vagaries of which they would become increasingly dependent. While mill advocates would argue that the disappearance of fish was an inevitable consequence of progress, they ignored the social costs of reserving the ownership of New England's waterpower to only a few individuals—namely greater economic inequality and less personal independence. While in Ireland, Benjamin Franklin feared such a result. "Had I never been in the American Colonies, but was to form my Judgment of Civil Society by what I have lately seen, I should never advise a Nation of Savages to admit of Civilisation" he wrote, "For I assure you, that in the Possession and Enjoyment of the various Comforts of Life, compar'd to these People every Indian is a Gentleman."[566] At the close of the eighteenth century, small Anglo farmers had as much to fear about their world disappearing as Native Americans did a century before them.

Revolutionary Aftermath

The rhetoric surrounding personal independence would be a powerful rallying cry in the American colonies during the Revolution. People calling for the "liberty" to catch fish capitalized on the vogue language of natural rights in their conflicts with dam advocates. However, in the end it would not be enough to counter the growing power of dam owners in a

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[565] Howard S. Russell, *A Long, Deep Furrow: Three Centuries of Farming in New England* (Hanover, N. H.: University Press of New England, 1976), 311–13; Dwight, *Travels*, 1:376; Steven Stoll, *Larding the Lean Earth: Soil and Society and Nineteenth-Century America* (New York: Hill and Wang, 2003), 31–37.
[566] Benjamin Franklin to Joshua Babcock, Jan. 13, 1772. http://founders.archives.gov/documents/Franklin/01-19-02-0004.

country eager to industrialize and compete with British manufacturing. Industrial-style iron and paper mills were few and far between in colonial New England, yet colonial governments lay the groundwork for their future expansion by consistently granting early iron enterprises exceptions to fish laws. State governments in the new United States did not reverse course as the number of industrial mills grew at the turn of the nineteenth century. Besides a few temporary victories requiring mill owners to provide passage for fish, dams were allowed to stand and fish runs were allowed to wither and gradually die off, just as they had during the colonial period.[567]

In 1800, petitioners from the inland communities of Coventry and West Greenwich, Rhode Island asked for a recently built dam on the Pawtuxet River be opened for fish. The dam sat downstream in Warwick and powered one of the first cotton mills in the United States. The mill owners refused to open the dam and used a new nationalist argument to justify their illegal actions to Rhode Island's legislature. They pointed out that "The United States, thro' the bounty and blessing of divine Providence, are placed in a situation independent of any other country, as it respect the real necesssaries of life relative to food" yet were dependent on foreign manufactures. Such a situation, the millowners claimed, was "incompatible with the Generis and character of the American People." Despite the fact that Warwick mill only employed twenty souls, the legislators agreed that the economic independence of a more numerous group of farmers and fishermen should not threaten America's ability to compete in the international market.[568]

In the early nineteenth century American jurisprudence came to promote economic development over traditional property rights. Courts and legislatures eliminated many of the legal obstacles which bedeviled mill owners in the past when their dams flooded land or blocked

[567] Kulik, "Dams, Fish, and Farmers," 36–37.
[568] R. I. Petitions, 33.6, 39.

fish—in effect privatizing water. These laws were not a stark departure from the past as they have been characterized.[569]

By the mid-eighteenth century, communities in southern New England had a well-established practice of entrusting a small group of people to secure the benefit of waterpower for the community. Returning to the 1764 Farmington River case from the outset of this chapter, when fish-loving Connecticut colonists asked dam owners for a fishway, the several millowners refused. When this was reported to Connecticut's General Assembly, it voted in the negative whether "any thing should be granted" to the aggrieved fishermen. Those on the Farmington River who depended on fish for their subsistence employed the same language levied against the Stamp Act to describe the injustice of being deprived the liberty to fish, which was their "just right…as Englishmen and Inhabitants of a well regulated Government."[570] Although the profits for agricultural millowners were not nearly as immense as those industrialists would enjoy, and their mills genuinely served a more social function by grinding grain, fulling cloth, or sawing wood, these mills greatly alleviated the labor of agricultural people. However, by choosing these mills over fish, New Englanders triggered a path dependency which would legitimize greater private use of river energy. Preindustrial milldams threatened delicate riverine ecosystems and eviscerated fish species. The alewives and herring which once swelled in the millions disappeared from southern New England in many towns by the first decades of the eighteenth century. In the second half of the century, with the region's fish migrations only a wistful memory, or a pathetic remnant of their once incalculable size, the arguments for preserving traditional privileges to waterways became increasingly harder to make. By erecting dams and refusing to follow laws protecting fish, millowners and their allies destroyed the multiple

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[569] Horwitz, *Transformation of American Law*, 34–42, 47–53; Steinberg, *Nature Incorporated*, 31–38.
[570] CTA Industry 2:244a, 246b, 244c.

relationships people had with waterpower, fueling a cultural shift which increasingly came to interpret river energy as an abstraction which was only useful for turning millwheels.

In all practicality the fish matter was settled by the late eighteenth century. Massachusetts' fish act of 1746 empowered communities to eradicate an entire river's fish population if "the benefit of the mill is judged more than the fish."[571] The codification of this pro-economic growth philosophy in early nineteenth century legal circles was more a result of a change in government than a post-revolutionary cultural shift. The British colonial system was not very representative on a legislative level, yet it allowed the "the people" more flexibility to present local complaints to local officials who administered the law based on local conditions. In the new American republic, "the people" were embodied in the legislative assemblies which they elected. The gulf between local and central authority had been bridged, in theory. Flexibility had been replaced by uniformity. Barbara Clark Smith has shown that this increase in political representation ironically lessened local autonomy.[572] So when laws went into the books during the nineteenth century which in essence privatized rivers, New England authorities were only making a reality explicit which had been implicit in the prior century. The region's rivers already were already heavily dammed and the struggle over what shape rivers should take had been settled by the prior generation.

Heavy industry fouled New England's waters, prompting inquiries into rivers' impact on people's health by the 1860s. These early committees inspired state governments to clean up their rivers, and perhaps restore the fish runs as well. They even appointed commissioners which could inspect and enforce fish passage laws across entire states. Such a centralized enforcement

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[571] AR 3:267–69; Horwitz, *Transformation of American Law*, 34–42, 47–53; Steinberg, *Nature Incorporated*, 31–38.
[572] Barbara Clark Smith, *The Freedoms We Lost: Consent and Resistance in Revolutionary America* (New York: New Press, 2010), 1–46; 183–210.

structure was a stark departure from the localism of the colonial era and held the potential to succeed in restoring the fish runs of yore. But by the late nineteenth century large scale industrial mills dominated the region's economic interests, and the fish were almost entirely gone.[573] Besides, even if the fish did return, they would not regain their former position in New England society as an important food source. Industrial mills had transformed the region from a population of a few hundred thousand during the Revolution to millions by the Civil War. The waterpower which now almost exclusively generated power for mills provided opportunities for hordes of desperately poor Irish, German, and French-Canadian immigrants seeking a better future in the United States. Making way for a few fish, remnants of a bygone era, was not the popular concern it once was. Not until the late twentieth century, when globalization shuttered those mills and fossil fuels erased hydropower's competitive advantage, would the fish be welcomed back by a much transformed New England people.

[573] AR 1867:741–42; Cumbler, *Reasonable Use*, 98–100; Judd, *Common Lands*, 161–66; Erik Reardon, "Managing the River Commons: Fishing and New England's Rural Economy, 1783–1848" (PhD diss., University of Maine, 2016.)

Postscript: The Edwards Dam

"Let judgment run down as waters, and righteousness as a mighty stream." Amos 5:24

With land and opportunity in short supply in southern New England, erstwhile British colonists newly styled "Americans" migrated to the less populated reaches of the new nation just over the horizon. Many struck west. Most preferred upstate New York and Vermont to the hard-scrabble prospects in Maine. Yet the ocean route from Boston northbound to Penobscot Bay was by far the cheapest way to leave the overcrowding towns in Massachusetts, Rhode Island, and Connecticut. Such an advantage was no small consideration for the very poor, who took a chance and migrated to the Eastern Country. In 1797, Boston merchant John Southack asserted "no people ever venter'd to settle an hospitable wilderness, in more needy circumstances, than this people without money, provisions or farming utensils" who "must have remained in public charge" had they remained in Massachusetts. Frequently without significant savings to get started in Maine, the natural abundances of fish and forest allowed these impoverished immigrants to scrape by, surviving on fish and selling timber before planting their first crop.[574]

The environmental conditions of eastern Maine during the era of the early republic looked like those encountered by the earliest colonists from the seventeenth-century. These Americans fresh off a revolution were very different people, or so they imagined themselves to be. Those settlers escaping poverty carved out a livelihood in this "cold, distant and uncultivated wilderness" rarely found much prosperity in the land or sea. What truly mattered was the

[574] Taylor, *Liberty Men*, 63.

personal independence they had attained which was unavailable to them in a crowded, industrializing southern New England. The marginal condition of the land and humble origins of the people in Maine were the right conditions for producing an exemplar Jeffersonian republican society that reflected the more liberal interpretations of the American Revolution: namely a community of small independent landowners of relatively equal means.[575] Much like immigrants to the new states across the Appalachians, Mainers sought to forge an egalitarian republic uncorrupted by the power dynamics of the colonial past which infected the older states.[576] The optimism of these people, albeit more secular, would have been recognizable to the early Puritan immigrants who founded New England two centuries before.

When a group of men in 1834 sought to erect a dam across the Kennebec River, the major waterway in central Maine, a vigorous debate erupted along the lines of those one hundred years earlier. The dam was proposed to be built in the state's new capital of Augusta. The emerging city sat on the site of the Cushnoc Rapids which had once drawn Indians to fish in the spring. The Plymouth colony established a trading post there in the 1630s, and in 1754 Massachusetts built a fort to control the fish and transportation at the site. Despite being the new capital of a new state, Augusta's proximity to waterpower made it an old, important place. Now monied men sought to harness that waterpower to power textile factories. Communities in the region immediately protested since they relied on the fish for fertilizer and food. These farmers had the benefit of experience in their protests against the dam. One only needed to compare their own economic independence to the condition of the industrial working classes to the south in

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[575] Ibid., 63, 96, 115-121; for lower class suspicion of America's new legal profession, see Horwitz, *Transformation of American Law*.

[576] Andrew R. L. Cayton, *Frontier Republic: Ideology and Politics in The Ohio Country, 1780–1825* (Kent, Ohio: Kent State University Press, 1989); Stephen Aron, *How the West Was Lost: The Transformation of Kentucky from Daniel Boone to Henry Clay* (Baltimore: Johns Hopkins University Press, 1999).

Massachusetts and Rhode Island to see the social consequences which would follow if a dam were built.

Starry-eyed dam promoters hoped to put Augusta on the same footing as other New England industrial centers. Early calculations estimated the waterpower caught by a dammed Kennebec River to be three times that of Lowell's Pawtucket Falls, then the most successful industrial center in the country.[577] They claimed the dam would fulfill a public good by attracting manufacturing which would bring "capital and taxable property" to the region.[578] Unlike smaller versions from the colonial period which generally clotted smaller tributaries, the proposed dam would cut entirely across a major river. Luther Severance of the *Kennebec Journal* postulated that the dam, once completed, would provide "ample water power to move more machinery, perhaps, than is at present in operation in all the New England states."[579] The effect would be to raise the natural fall of the Cushnoc Rapids, concentrating the Kennebec's kinetic energy over wheels which would animate machinery in several mill complexes. Instead of supplying the local community, the dam would extract the most labor possible from the river in order to supply external markets with lumber or cloth at a low enough cost to compete with rivals across the nation, and globe.[580]

Petitioners opposing the dam knew such an edifice would transform Kennebec River and the region's social structure along with it, as it had done to the south. They wanted the Kennebec

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[577] *The Age* (Augusta, Maine), Nov. 9, 1836.
[578] Petition of Greenleaf White & others, praying for an Act of Incorporation for the purpose of erecting a Dam across Kennebec River, Legislature Laws 1834, box 107, folder 73, 446, Maine State Archives, Augusta [hereafter MeA].
[579] *Kennebec Journal* [Augusta, Maine], July 30, 1825; Edward Seabury, *The Untold Story of the Great Kennebec Dam at Augusta* (Augusta, Maine: E. S. Coffin, 1991).
[580] Gavin James Taylor, "Ruled with a Pen: Land, Language, and the Invention of Maine" (PhD diss., College of William and Mary, 2000), 357–60.

to "remain open & free to the use & advantage of all as nature has designed it."[581] Statements in the petitions such as "they afford a class of people at one season of the year a cheap living," "Frontier populations," and "peoples of the interior" obliquely reference the indigent station of the people who depended on the fish. The alewives and herring which went up each spring also proved an invaluable source of bait for fishermen plodding the ocean. Petitioners from the coastal community of Georgetown reported "A large number of our citizens derive their only subsistence from the shad, alewife and cod fishery. Deprived of these privileges they must experience very great distress, be reduced to at once to severe want, if not positive beggary."[582] Phippsburg residents admonished the legislature to "never sanction the principle, to take away by law the natural rights of some of the citizens, and give to others no more deserving, but to observe the maxim invariable, to throw no obstructions in the way of individual enterprise."[583] These petitioners believed the best way to spread the benefit of the state's waterpower was to preserve access to the most people.

Much like Wabanakis a century before, opponents to what would become the Kennebec Dam challenged the cant of "improvement" so popular in the early republic.[584] One petitioner feared "the industry, enterprise, and business of the whole Kennebec County will be brought into bondage for all coming time." Instead of a republic of independent yeoman, entrusting a few individuals with the region's valued energy source would lead to "mischiefs of which will not only be felt by us of the present day, but will be entailed to the remotest generations."[585]

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[581] MEA Legislature Laws 1834, box 107, folder 73, 3499, 3527.
[582] MEA Legislature Laws 1834, box 107, folder 73, 3352.
[583] MEA Legislature Laws 1834, box 107, folder 73, 3527.
[584] John Lauritz Larson, *Internal Improvement: National Public Works and the Promise of Popular Government in the Early United States* (Chapel Hill: University of North Carolina Press, 2001).
[585] MEA Legislature Laws 1834, box 107, folder 73, 746.

Such doomsday predictions did not gain much traction. The petitions in favor of the dam outnumbered those in opposition. Representative Josiah Prescott of Farmington represented the majority opinion in the legislature when he used classic utilitarian logic to argue that the dam would ultimately improve the lot of more people than those immediately hurt by the loss of the fisheries. He characterized those reliant on fish as "generally poor" and "would likely to remain so if they continued their present business." Contemporaries were convinced that the wage labor powered by the humming waterwheels of the dam best ensured an increased standard of living for its poorest citizens. In addition, fish were already disappearing without the dams. Penobscot Indians made complaints in 1821 which also had been heard centuries earlier: American settlers were catching too many fish and laws to prevent that were not being enforced. Prescott and his colleagues reached the conclusion "that the Indians and fish must recede before the advancing strides of civilization."[586] Such rhetoric clouded the very real decisions powerful men like Prescott and New Englanders one hundred years before him had been making which put the control of energy sites in the hands of few in the belief that such an arrangement best served the community.

Representatives in the Maine State Legislature read the flood of remonstrances and ultimately struck a compromise between the petitioners. The Kennebec Dam Company was allowed to build the dam with the caveat that it also preserve common rights to the river. A canal with the second largest locks in the United States would be on the west side of the dam and allow for improved navigation for concerned commercial interests. The state also ordered that a fish ladder be built to preserve fish migrations.[587]

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[586] *Kennebec Journal*, March 5, 1834; MEA container 36748, box 9, item 12; MEA container 213031, box 8, folder 16, item 1.
[587] *Private and Special Acts of the State of Maine* (Augusta, Maine: I. Berry, 1834), 721–22.

Things did not end well for the Kennebec Dam Company. Soon after the dam's completion to great national fanfare in 1837, a freshet partially destroyed the structure only two years later. Once free of its shackles, the Kennebec River ran roughshod, carving a "prodigious chasm" on the west side of the river which carried away five acres of the town and left a "precipitous bank" eighty feet high. The stockholders of the Kennebec Dam Company never made a profit from their investment.[588]

The 1839 flood destroyed the canal and public complaints soon poured in demanding that navigation be restored to the river. This was done, but curiously the fishway was not similarly repaired. The Committee of Interior Fisheries was ordered to monitor the rebuilding of the passageway. An anonymous report to the legislature deemed this action "inexpedient."[589] The silent pocketing of this issue was symbolic—not only did it inauspiciously mark the end of centuries of fish migrations in the region, but the location of this "pocketing" was quite profound as well. The Maine State House overlooks the Kennebec River and was in plain view of the dam. The restoration of the fishway was hardly inexpedient, as business interests intentionally cast a blind eye on the matter by literally refusing to look out their windows from the state house. Considering the previous century of dam disputes in New England, the Kennebec Dam controversy is hardly remarkable. In a new state, living in a supposedly new post-revolutionary age, Mainers looked more like their colonial elders instead of Americans engaged in fulfilling the egalitarian idealism of the revolution.

1999

[588] *Kennebec Journal and Waldo Patriot*, June 4, 1839.
[589] MEA Untitled, Legislature/Laws 1838, 2401-0302 Box 114, envelope 7.

National attention returned to the Kennebec Dam in 1999. By this time it was known as the Edwards Dam, named for the Edwards Manufacturing Company's cotton mill which it formerly powered, but had closed in 1989. Like many waterfall sites in New England, the roiling cacophony Indians likened to the sound of a wailing kettle had long been muffled by the thrum of generators converting the river's flow into mechanical power. By 1999 the dam only generated electricity, and at a rate three times the market price.[590] Since the 1970s many residents along the Kennebec clamored for the Edwards Dam to be removed so fish could return to the river. With the mill jobs virtually gone, these interests reasoned, a restored Kennebec could attract tourists and mend the state's foundering fishing industry. Fundamentally the debate had not shifted in 150 years, only now the position of economic benefit was held by environmentalists and sports fishermen.

A groundswell of community action seeking to improve the ecological health of the Kennebec had been building since the mid-twentieth century. By that time pollution had reached unconscionable levels on the river as industrial concerns treated the waterway as an open sewer. Noxious fumes corroded the paint of homes by the riverside, turning white and yellow hues a foreboding muddy brown. The stench was so nauseating it woke people up at night and made consuming food near the water a gastronomic ordeal. Legislators were forced to clamp shut the windows of the state house on muggy summer days because of the smell.[591] These deplorable conditions spawned community action which culminated in their Senator Edmund Muskie spearheading the passage of the Clean Water Act in 1972. The health of the Kennebec improved

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[590] C. Ian Stevenson, "Introducing Environmental History into Vernacular Architecture: Considerations from New England's Historic Dams," *Journal of the Vernacular Architecture* 24, no. 2 (2107): 1–21; Jeff Crane, "'Setting the River Free': The Removal of the Edwards Dam and the restoration of the Kennebec River," *Water History* (Fall 2009); Huden, *Indian Place Names*, 48, 81.

[591] Wallace Scot McFarlane, "Defining a Nuisance: Pollution, Science, and Environmental Politics on Maine's Androscoggin River," *Environmental History* 17, no. 2 (2012): 307; Daniel J. Michor, "People in Nature: Environmental History of the Kennebec River, Maine" (MA thesis, University of Maine, 2003), 40.

much quicker than people thought. And as people came to appreciate the benefits of a river devoid of industrial effluent, their attention gradually turned to the Edwards Dam. Many Kennebec Valley residents saw little reason for it to remain, especially after the mill which the dam powered closed in 1989. Dam opponents pointed out that the Edwards Dam, being located at the base of a major river stem, blocked migratory fish from thousands of miles of spawning ground and argued its detrimental impact on the environment outweighed the benefit of the little energy it provided. Specifically, the amount of electricity the Edwards Dam generated was less valuable than the energy which would be restored to the Kennebec system by migratory fish, which as a keystone species fertilized plants and fed animals in the far reaches of the ocean as well as miles inland at the foothills of the Appalachian Mountains. Environmental groups rejected offers by the Edwards Dam Company to build a fishway and sought outright removal. The long history of ineffective fishways weighed on their minds.[592]

In a landmark 1997 ruling, the Federal Energy Regulatory Commission for the first time ordered that a dam be removed against the will of its owners. Secretary of the Interior Bruce Babbitt traveled to Augusta for the dam breaking in 1999. Speaking to a crowd gathered at the riverside backdropped by backhoes chewing into the dam, Babbitt characterized the Edwards Dam removal as "an act of restoration, a statement about our capacity to honor and respect God's creation." Maine Governor Angus King described the scene as "this, ironically, is progress by going backwards."[593] The 1999 removal of the Edwards Dam has paved the way for dam removals across the United States, and river restoration initiatives now exist in all New England states.

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[592] Brown, "Fish and hydropower," 280–86; For a map of redistributed calories see Mattock, "Damming," 720; Brown, "Fish and hydropower." Even with the rapid improvement of recent restoration efforts, river herring populations are estimated to be only 6.7 percent of original levels.
[593] WMTW News, July 1, 1999 (ABC: Disney Publishing Worldwide, 1999).

Environmental groups portray their actions as restorative justice, returning the widespread benefit of rivers to the public and away from private corporations. Native communities have taken the lead in many of these restoration efforts. Their desire to resurrect the relationship with waterways their ancestors shared provides a valuable perspective on maintaining balance with nature which will be crucial for survival in the anthropocentric age, just as it was in precontact times. Despite being shunned by dams for hundreds of years, small anadromous fish such as alewives, herring, and shad have made a remarkable comeback, arriving in swarms every spring in numbers larger than anything in living memory. It is a different matter for larger species. Sturgeon populations have made modest, if slow improvements. The famous Atlantic Salmon have not returned as expected, as climate change has warmed the Gulf of Maine and pushed them north.[594]

Governor King's words regarding "progress" rang eerily similar to Josiah Prescott's use of the word 165 years earlier to advocate for the dam. But if one looks back at the long trajectory of human interactions with waterways in the region, mankind is not "going backwards" or returning to its earlier relationship with rivers because those relationships have very little to do with energy. By tearing down dams, environmentalists are transforming rivers from places of work to places of rest, or recreation. And not everyone is happy to see this transformation. Dams created jobs and opportunities for countless immigrant groups and a respectable living for working class people. Across New England, denizens of the shrinking number of paper mill towns embrace the overpowering sulfuric fumes wafting from the mills as the "smell of money." With the Edwards Dam crumbling behind him, Augusta mayor William Dowling recalled

[594] On the rise of an ecological ethic, see Donald Worster, *Nature's Economy: The Roots of Ecology* (San Francisco: Sierra Club, 1977), 255–338. Brian S. Robinson, et al., "Atlantic salmon, archeology and climate change in New England," *Journal of Archeological Science* 36 (2009), 2184–2191.

memories of pulling logs from the river as a young man working for the paper mill. "[F]or a lot of us, this is a bittersweet historical moment," he told reporters. "Being half-French and half-Irish, I know the importance of what this dam has meant to our heritage."[595]

In the twenty-first century, New Englanders import their energy from abroad and do not depend on their rivers for power, or food, or transportation anymore. Smoked alewives are not being distributed to the poor, and with rare exceptions waterpower is not employing anyone. Rivers now embody the very recreational and aesthetic meanings which industrialists used to dispossess the people who actually depended on them for economic survival. South of the Kennebec River, restoration advocates on the Presumpscot River have built a memorial to Polin, the Wabanaki Sagamore who protested Thomas Westbrook's dam in 1739.[596] Environmentalists understandably find inspiration in Polin, however their valorization of the Wabanaki sagamore obscures the significant differences in their relationship to the Presumpscot. A clean Presumpscot will make the post-industrial towns along its banks nicer places to live from a health and recreational standpoint which have significant impact on real estate values.[597] Environmentalists do not gather at the Presumpscot's many falls as Polin's people did to extract labor. The sinews connecting people to energy sources remain, the source is just no longer in their backyard. The gas stations and the power lines of the twenty-first century which trace and

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[595] Peter Kellman, "Jay, Maine, Fights for Jobs and the Environment," *Labor Research Review* 1, no. 22 (1994): article 13; *Kennebec Journal*, July 2, 1999.

[596] Eric Russell, "Memorial to Abenaki leader killed in 1756 unveiled in Westbrook," *Portland Press Herald*, Sept. 30, 2018 (accessed Sept. 30, 2018).

[597] The environmental reclamation of riverine spaces may be understood as a form of environmental gentrification. Melissa Checker, "Wiped Out by the 'Greenwave': Environmental Gentrification and the Paradoxical Politics of Urban Sustainability," *City and Society* 23, no. 2 (2011): 210–229; "New Hampshire's industrial legacy has transformed the state and its people, becoming inseparable from our identity as a society. That is why we must apply all our knowledge and judgement to each proposal to remove a piece of that legacy." James, L. Garvin, "New Hampshire's Waterpower Legacy," *The Old Stone Wall* (Fall 2000); Cathy Stanton, *The Lowell Experiment: Public History in a Postindustrial City* (Boston: University of Massachusetts Press, 2006).

crisscross New England's rivers attest to this different relationship. Because New Englanders no longer depend on waterpower for their survival, they can afford to transform rivers into a spectacle for human enjoyment. Restoring riverine ecosystems also has abstract moral benefits which might make environmentally-conscious humans feel better about themselves in a philosophical sense, but these projects have yet to produce the tangible economic benefits for which humans have valued rivers for millennia. If the empty mill buildings on the Kennebec and Presumpscot still employed people, or if the dams generated significant power for the grid, the fish would not be coming back.

In places where waterpower is economical, the rivers are dammed, and people bear the ecological consequences what they may. The rise of an environmental consciousness in the era of climate change has impelled Massachusetts to find renewable sources of energy. In 2016 the state committed to meeting a greater share of its energy demand with wind, solar, and hydro. Despite possessing almost one fourth of the nation's waterpower only a century ago, the Bay State will not be producing hydro domestically. Massachusetts inked a deal in 2018 with Hydro-Québec to supply them with "clean, affordable power" for twenty years. While dams are being taken down on the Charles River and residents celebrate the return of herring each spring, the state has exported the violence that comes with energy production to Canada. Built under expedited and shady circumstances during the frantic military buildup of the second world war, Quebec's many dams block the migrating fish New Englanders have come to appreciate. The dams, just as they did three centuries ago, have had a severely detrimental impact on the indigenous people who depended on northern Quebec's waterways for their livelihoods.[598]

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[598] David Abel, "In Québec, it's power versus a people on hydroelectricity," *Boston Globe*, Jan. 23, 2018; An Act to Promote Energy Diversity, Commonwealth of Massachusetts Acts 2016, Chapter 188; Bob Salsberg, "Massachusetts Taps Northern Pass for Hydropower Project," *Associated Press*, Jan. 25, 2018; "Hydro-Québec wins

The human appetite for energy in New England has not abated since the colonial period, and now far exceeds the overabundant amount the region's rivers once provided. Ironically, the economic and cultural changes wrought by the industries which spawned first in New England because of its rich endowment of exploitable energy have transformed the region into an energy poor one. The region's waterpower no longer holds a competitive advantage, as more powerful sources of fuel can be imported at a much lower price than if produced domestically. Combined with being peripherally situated on the North American continent, the region is distant from major energy infrastructures, making energy prices in New England among the most expensive in the United States. The results of this competitive disadvantage have been catastrophic—New England states are among the poorest in the northeast and oldest in the nation. Businesses and young people are scared away by the high costs, and just like the colonists first attracted to New England's waterpower, seek opportunity where it is more convenient.[599]

Human relationships with energy have not fundamentally changed since the late eighteenth century, only the spatial dimensions have. During the preindustrial period, people needed to travel to high energy sites such as waterfalls in order to consume it. Now, power lines, super tankers, pipelines, trains, and trucks deliver energy to people's doors. These networks render relationships with energy and the "benefit" or "advantage" they provide nearly invisible. However, if one follows these energy networks to their sources of origin across the globe, they

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major Massachusetts energy contract," CBC News, Jan. 25, 2018; David Massell, *Quebec Hydropolitics: The Peribonka Concessions of the Second World War* (Montreal & Kingston: McGill-Queen's University Press, 2011); Matthew Evenden, *Allied Power: Mobilizing Hydro-electricity during Canada's Second World War* (Toronto: University of Toronto Press, 2015); Matthew Evenden and Jonathan Peyton, "Hydroelectricity," in *Powering Up Canada*, 251–73.

[599] Lauren Ross, Ariel Drehobl, and Brian Stickles, "The High Cost of Energy in Rural America: Household Energy Burdens and Opportunities for Energy Efficiency," (Washington D. C.: American Council for an Energy Efficient Economy, 2018), 3, 16–18, 46; Institute for 21st Century Energy, "What If…Pipelines Aren't Built in the Northeast?" (United States Chamber of Commerce, 2017), 10–11; U. S. Census Bureau, "The Nation's Median Age Continues to Rise" (U. S. Department of Commerce, 2017) https://www.census.gov/library/visualizations/2017/comm/median-age.html (accessed May 23, 2018).

will find the violence and ecological disruption which characterized New England during the colonial period.

Besides the sound of crashing water, New England's many waterfalls are now quiet places obscured under bridges, blocked by fences, or designated spaces of spectation and reflection. A very different history of activity and struggle which raged around these waterfalls occasionally survives on markers affixed to the empty or repurposed mill buildings standing sentinel around them. If we understand these struggles for what they were—over water and energy—then we would be wise to look to sites of energy production in our own time. Lessons from the past show that no less than the structure of our society and who governs it are at stake.

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