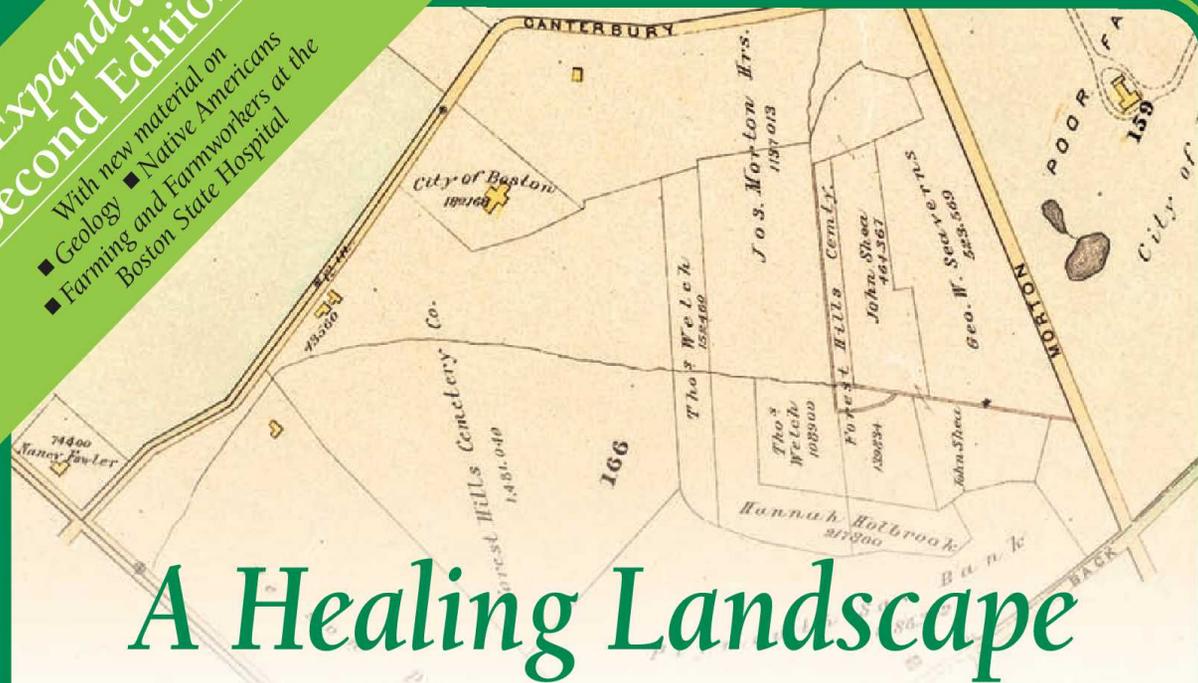


**Expanded  
Second Edition**  
With new material on  
■ Geology ■ Native Americans  
■ Farming and Farmworkers at the  
Boston State Hospital



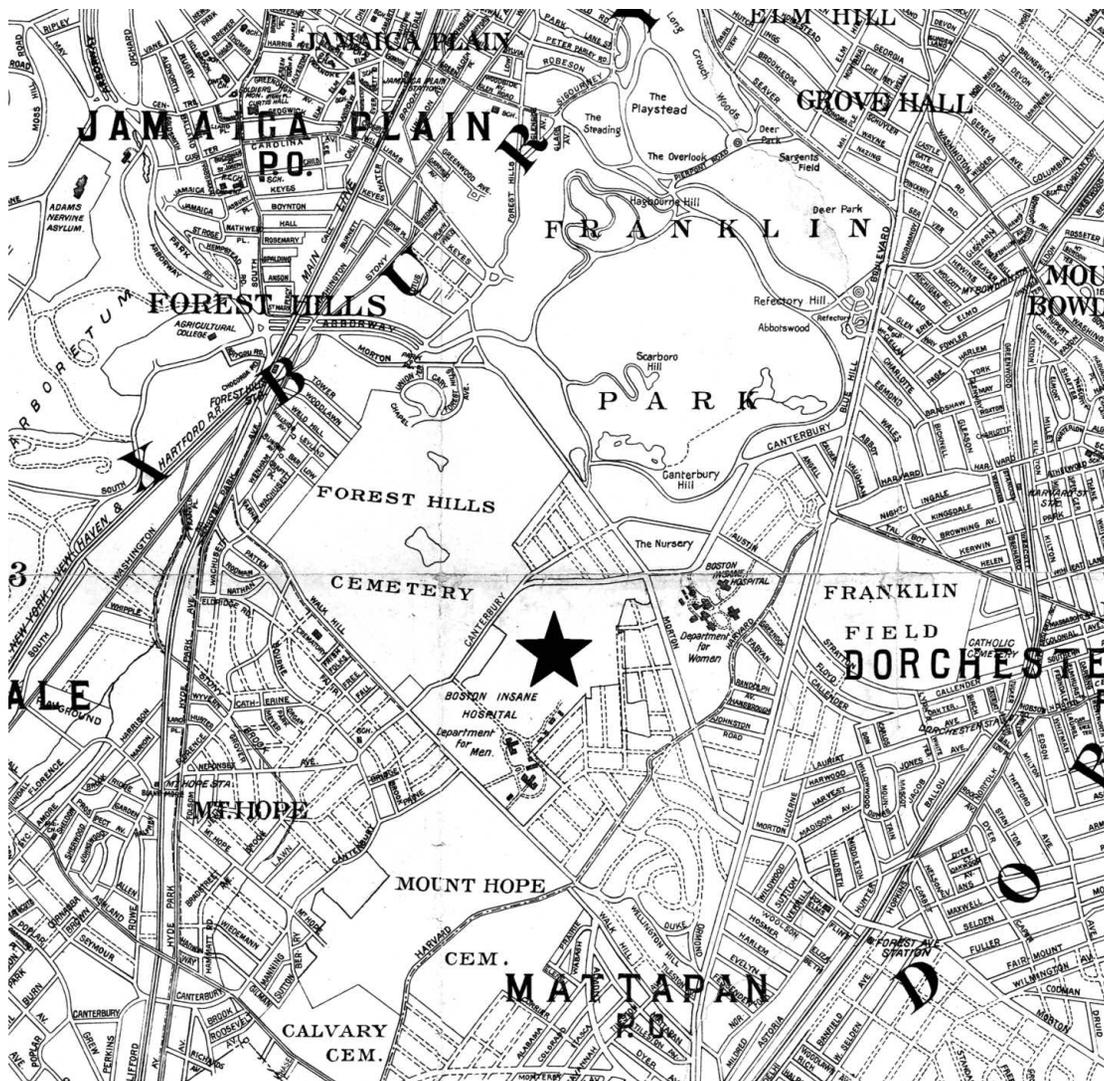
# A Healing Landscape

Environmental  
and Social History  
of the Site of  
Mass Audubon's  
Boston Nature Center



Steven Pavlos Holmes

# A Healing Landscape



Detail from a 1907 map of Dorchester, Roxbury, and West Roxbury by G. H. Walker. The black star indicates the site of the future Boston Nature Center—occupied at that time by the Boston Insane Hospital, the city-owned forerunner to the Boston State Hospital. *Map reproduction courtesy of the Norman B. Leventhal Map Center, Boston Public Library.*

# A Healing Landscape



*Environmental and Social History  
of the Site of  
Mass Audubon's Boston Nature Center*

Expanded  
Second Edition

**Steven Pavlos Holmes**



Text copyright © 2013, 2016 Steven Pavlos Holmes  
Copyright for all illustrations are held by their originators as indicated in citations  
Cover design by Martha Heath

Published by Mass Audubon  
208 South Great Road, Lincoln, Massachusetts 01773  
781-259-9500 or 800-AUDUBON (283-8266) [www.massaudubon.org](http://www.massaudubon.org)

A Healing Landscape was supported in part by a grant from Mass Humanities, a state-based affiliate of the National Endowment for the Humanities. The findings and interpretations expressed herein do not necessarily represent the views of Mass Humanities or of the National Endowment for the Humanities. [www.MassHumanities.org](http://www.MassHumanities.org)



This book was laid out with Scribus 1.4.2, free and open source publishing software available at [www.scribus.net](http://www.scribus.net). It was printed on FSC-certified recycled paper by DS Graphics, Inc.  
120 Stedman Street, Lowell, Massachusetts 01851  
[www.dsgraphics.com](http://www.dsgraphics.com)  
Second edition September 2016

***About the author:***

**Steven Pavlos Holmes**, Ph.D., is Scholar-in-Residence at the Boston Nature Center. He is an independent scholar of the environmental humanities, with a special interest in the emotional, ethical, and spiritual dimensions of our interactions with the natural world. He is the author of *The Young John Muir: An Environmental Biography*, coeditor of *Maine Voices: A Celebration of the People of Maine and the Places They Love*, and editor of *Facing the Change: Personal Encounters with Global Warming*. He has taught at Harvard University and at the Cambridge (Mass.) Center for Adult Education. He lives, writes, and watches birds in the Woodbourne section of Jamaica Plain, Massachusetts. [stevenjholmes@post.harvard.edu](mailto:stevenjholmes@post.harvard.edu)

***Come visit the BNC!***

Boston Nature Center and Wildlife Sanctuary  
500 Walk Hill Street, Mattapan, Massachusetts 02126  
617-983-8500  
[www.massaudubon.org/boston](http://www.massaudubon.org/boston)

Visit the Healing Landscape section of our website for a slideshow, exhibits, free PDFs of this book, and other stuff: [www.MassAudubon.org/Boston/About/A-Healing-Landscape](http://www.MassAudubon.org/Boston/About/A-Healing-Landscape)

# ∞ Contents ∞

Illustrations	vii
Preface	ix
Acknowledgments	xi
A Bird's-Eye View of History: <i>Color Plates</i>	3
1. The Land before Us	11
2. First Peoples	21
3. The House of Isaac	33
4. Elizabeth on the Land	43
5. A Pilgrim in Canterbury	47
6. From Farm to Market	49
7. Wetlands and Birdwatchers	57
8. Man and Nature at the Boston Insane Hospital	67
9. An Expanding Institution	81
10. Hospital, Garden, Sanctuary	93
Sources	100



## ❧ Illustrations ❧

The BNC site and its neighborhoods, 1907 *frontis*

### *Color Plates*

1. Map of Roxbury and other towns, 1797	3
2. Map showing Canterbury watershed, 1852	4
3. Atlas showing land parcels and owners, 1884	5
4. Atlas showing West Roxbury greenspaces, 1899	6
5. Atlas showing Boston State Hospital, 1924	7
6. Aerial view of Boston State Hospital, 1955	8
7a. Aerial view of Boston State Hospital, 1995	9
7b. Aerial view of Boston Nature Center, 2005	9
8. Geology of the BNC area, 2016	10

### *Chapter Illustrations*

1.1. Gondwana and Avalonia	14
1.2. Avalonia's journey to Laurentia	15
1.3. Pangaea and the BNC	15
1.4. The separation of Avalonia	16
2.1. Migrations of early Americans	20
2.2. Giant beaver and mastodon	22
2.3. Neponset Paleo-Indian artifacts	23
2.4. Everyday tools, Arnold Arboretum	25
2.5. Archaic points, Arnold Arboretum	26
2.6. Native southern New England, c. 1600	29
3.1. Map of Roxbury with Williams homestead, 1832	32
3.2. Plan of Williams farm, 1835	36
4.1. Map of Roxbury showing Weld homestead, 1843	42
6.1. Atlas of West Roxbury, Lambert and Mack, 1874	51

7.1. Map showing Canterbury watershed, 1873	56
7.2. Henry D. Minot at age 28	59
7.3. Arthur W. Austin, 1858	60
7.4. Marsh and brook in 1900	61
7.5. Francis Birtwell at age 19	62
8.1. Atlas showing Pierce and Austin Farms, 1905	66
8.2. Boston Insane Hospital and surroundings, 1901	68
8.3. Pierce Farm buildings, c. 1900	69
8.4. Cattle at Pierce Farm, c. 1900	74
8.5. The new piggery, c. 1900	75
8.6. Workers and residents, Pierce Farm, c. 1900	78
8.7. Floor plan for Pierce Farm building, 1893	79
8.8. Resident's single room, c. 1900	80
9.1. Underground brook conduit and sewer, 1906	82
9.2. Brook rechanneling, 1912	82
9.3. Infirmary building, 1919	86
9.4. Aerial photograph of hospital, 1938	90
10.1. Aerial photograph of West Campus, 1967	95
10.2. Map of the Boston Nature Center, 2013	98

### *Tables*

Major geological events	13
Plants used by Native Americans	28
Four generations of the Williams family	35
The Fottler family	54
Workers at Pierce Farm in 1900	71
Horses at Pierce Farm in 1908	77
Farm produce in 1910	83
Workers at Pierce Farm in 1910	84
Farm produce and fertilizer purchased, 1910-20	85

## œ Preface ∞

**M**ass Audubon's Boston Nature Center and Wildlife Sanctuary (BNC) is a unique community-based education center and wildlife sanctuary serving the neighborhoods of Dorchester, Hyde Park, Jamaica Plain, Mattapan, Roslindale, and Roxbury. Founded in 1999, the sanctuary includes a surprising variety of features in an urban setting:

- ∞ Nearly ten acres of wetlands that are an ecological magnet for hundreds of species of plants and animals and are ideal for use as an outdoor classroom;
- ∞ Over two miles of accessible trails and boardwalks through forests, wetland, and meadow;
- ∞ The Clark-Cooper Community Gardens, one of the oldest and largest community gardens in the city; and
- ∞ The George Robert White Environmental Conservation Center, a state-of-the-art green building with classrooms, offices, and changing exhibits that orient visitors and interpret the site.

The BNC's inclusive and accessible programs—offered both onsite and in an extensive network of school and community settings—promote scientific thinking, environmental engagement, and outdoor appreciation and recreation to thousands of inner-city children and adults each year.

As part of the tenth anniversary of the George Robert White Environmental Conservation Center, the BNC decided to look back in time, past its own founding, to find out more about the people and events that preceded it on this particular place on earth. Thus, the *Healing Landscape* project was designed to better understand the people who have lived and worked on the site of the BNC for the past few centuries and more, and to explore how the landscape itself has changed over time. Along with this book, the project included historical displays at the sanctuary, public presentations, and a website featuring a slideshow, additional content, and an electronic version of this book.

The BNC's interest began with the story of their immediate predecessor on the site, the Boston State Hospital, but it soon became evident that there was material for a much deeper and longer history than that—as deep and long as we had time to explore. For various

practical reasons, the first edition of the book focused on Euro-American history from the eighteenth century on; but when it came time to reprint the book, we took it as an occasion to expand our scope backward in time, and so this second edition includes the geological history of the site and explores pre-contact Native American presence, along with added twentieth-century material on the farm and farmworkers of the Boston State Hospital. Still, one chapter of the story remains (and will remain) largely unwritten: For reasons of medical confidentiality and personal privacy, the official records of residents and staff of the Boston State Hospital are closed to public research, and we continue to follow the spirit as well as the letter of this policy by not attempting to reconstruct in detail the life or experiences of any identifiable resident of the hospital at any time.

We have been pleasantly surprised by the range and depth of the stories, information, and images that we were able to uncover, and we think that this book will serve as a useful and engaging introduction to the documentary history of the site. Most of all, we hope that it will encourage you to come see the BNC for yourself, or, if you're already a regular visitor, that it will help you find new meaning and delight in the trails, woods, and waters of this remarkable landscape.

## œ Acknowledgments ø

**A** *Healing Landscape*—both this book and the larger project of which it is a part—would not have been possible without the support and collaboration of many people and institutions.

I was glad and grateful to begin my research with Richard Heath’s 1993 essay “The Great Meadows of Canterbury: Boston State Hospital Urban Wilds,” which provided the historical framework around which this project was developed. Sincere thanks to the staffs and supporters of the many libraries and archives whose holdings I consulted during my initial research: the Boston Public Library, including the Central Library and the Jamaica Plain and West Roxbury branch libraries; the Norman B. Leventhal Map Center at the Boston Public Library, especially Evan Thornberry; the City of Boston Archives, especially Marta Crilly; the Arnold Arboretum Library, the Ernst Mayr Library of the Museum of Comparative Zoology, and Widener Library, all of Harvard University; the Massachusetts Archives, especially Jennifer Fauxsmith; the State Library of Massachusetts, especially Silvia Mejía of the Special Collections Department; the Free Library of Newton; the Norfolk County Registry of Deeds; the Norfolk Probate and Family Court; and the Suffolk Registry of Deeds. Important document collections on the internet have included the Internet Archive (Archive.org), the David Rumsey Map Collection, Ancestry Library Edition, AmericanAncestors.com, and Google Books; my thanks to the creators and sustainers of all of these resources. Additional thanks to Professor Leon Jackson of the University of South Carolina, for ideas, scholarly references, and general conviviality.

For the first phase of the project, overall structure, support, feedback, ideas, and general making-things-happen came from the staff of the Boston Nature Center and Wildlife Sanctuary; my deepest thanks to Julie Brandlen, Jean Dorcus, Erin Kelly, Kylee Noga, and the rest of the staff at the BNC. Thanks also for essential support and resources from Mass Audubon and from Mass Humanities.

For this expanded second edition, very special thanks to geologist Margaret D. Thompson of Wellesley College, who graciously gave of her time and expertise in reviewing and reworking Chapter 1 and Color Plate 8. Thanks also to David Landon and José E. Martínez-Reyes at the University of Massachusetts–Boston, to Lisa Pearson at the Arnold Arboretum,

and to Michael McWade at the Boston Nature Center for guidance, resources, and ideas on Native American history.

For assistance in exploring various other avenues (including some dead ends) of Boston-area history for this new edition, thanks to Meredith Vasta and Katherine Meyers at the Peabody Museum of Archaeology and Ethnology, Harvard University; to Elizabeth Roscio at the Bostonian Society; to Anne E. Bentley and other staff at the Massachusetts Historical Society; and (again) to Jennifer Fauxsmith and staff at the Massachusetts Archives and to the staffs of the public libraries of Boston, Newton, and Cambridge.

At the Boston Nature Center, Adam Leiterman offered initial ideas on the new edition and helped with publicity; Andrew MacBlane shared time and insight in reviewing the new chapters; and Julie Brandlen once again made things happen with openness and energy. Thanks to them all, and to the rest of the staff at the BNC.

For help in putting my work into presentable form, thanks to Nellie Hovel of Mass Audubon, for designing the website; to Ann Prince of Mass Audubon and to Seth Mirsky, for proofreading the manuscript; to Martha Heath of the BNC Sanctuary Committee, for designing the cover; and to the helpful folks at DS Graphics in Lowell, for producing the physical book.

All errors of fact and infelicities of expression are, of course, my own.

Personal thanks, as always, to my partner Carlene Pavlos, for being here and being there.

And last but certainly not least, thanks to you, dear reader, for your interest in the Boston Nature Center. May this book deepen your appreciation of this special place on earth, and together may we celebrate and protect it for many years to come.

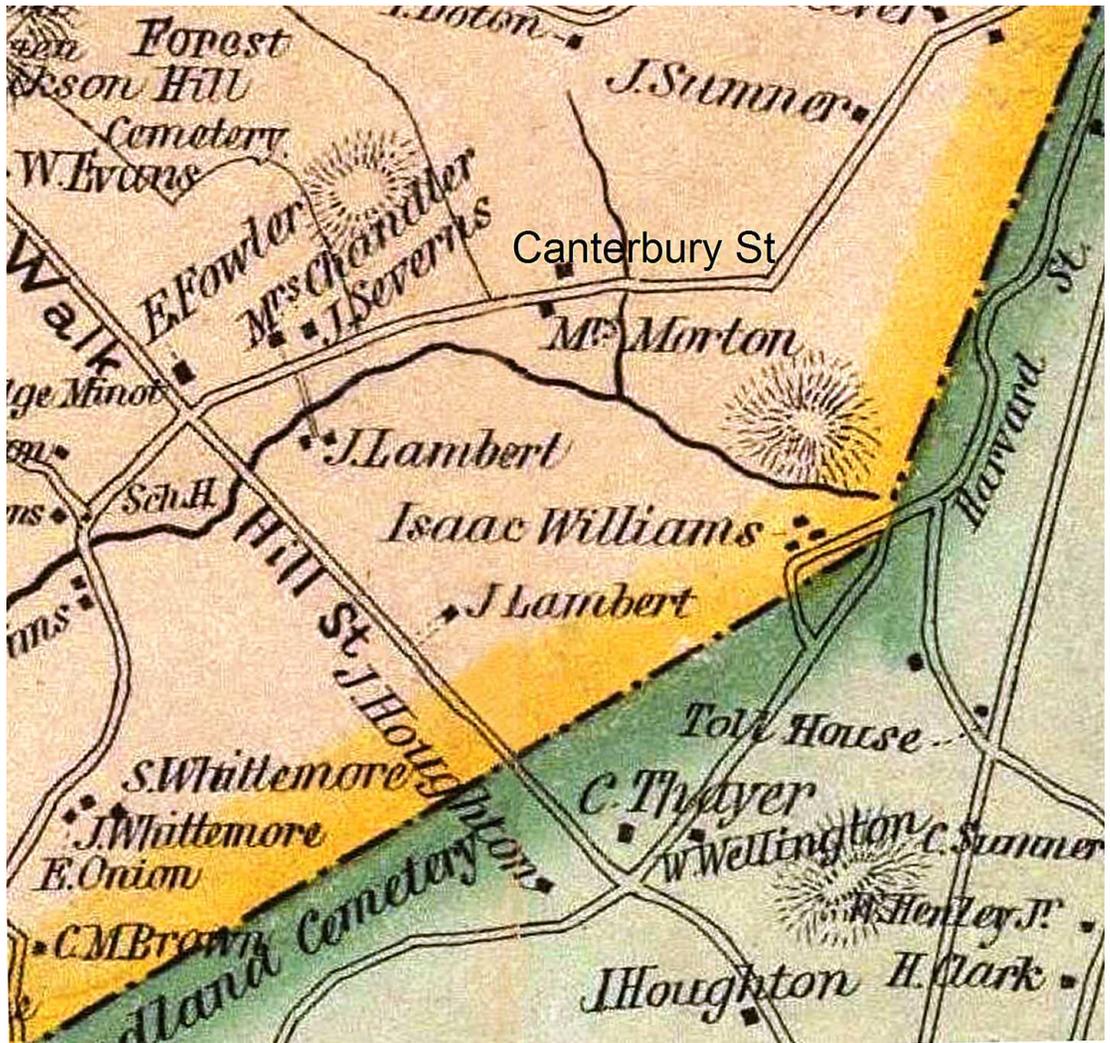
*Steven Pavlos Holmes  
Jamaica Plain, Massachusetts  
February 2013 / September 2016*

# **A Healing Landscape**

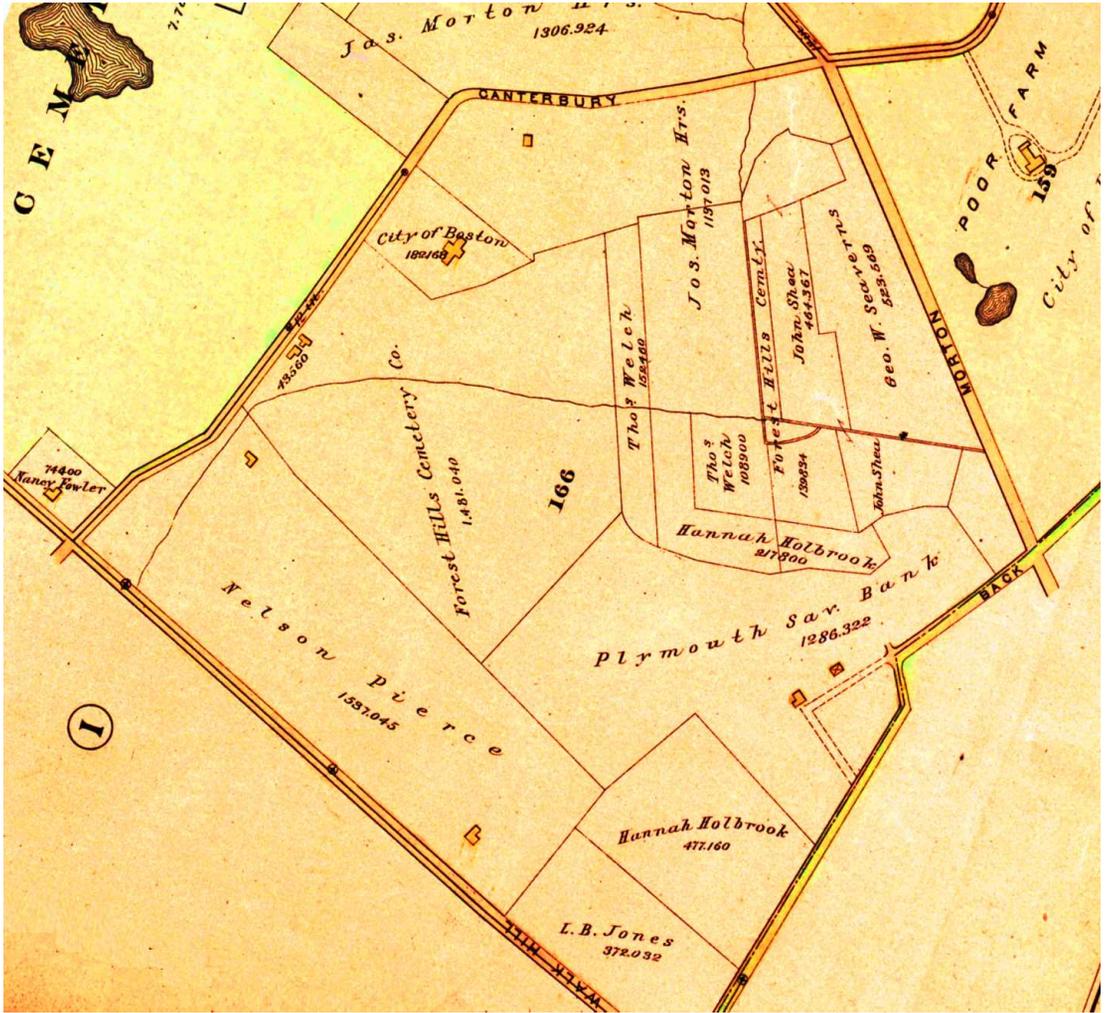




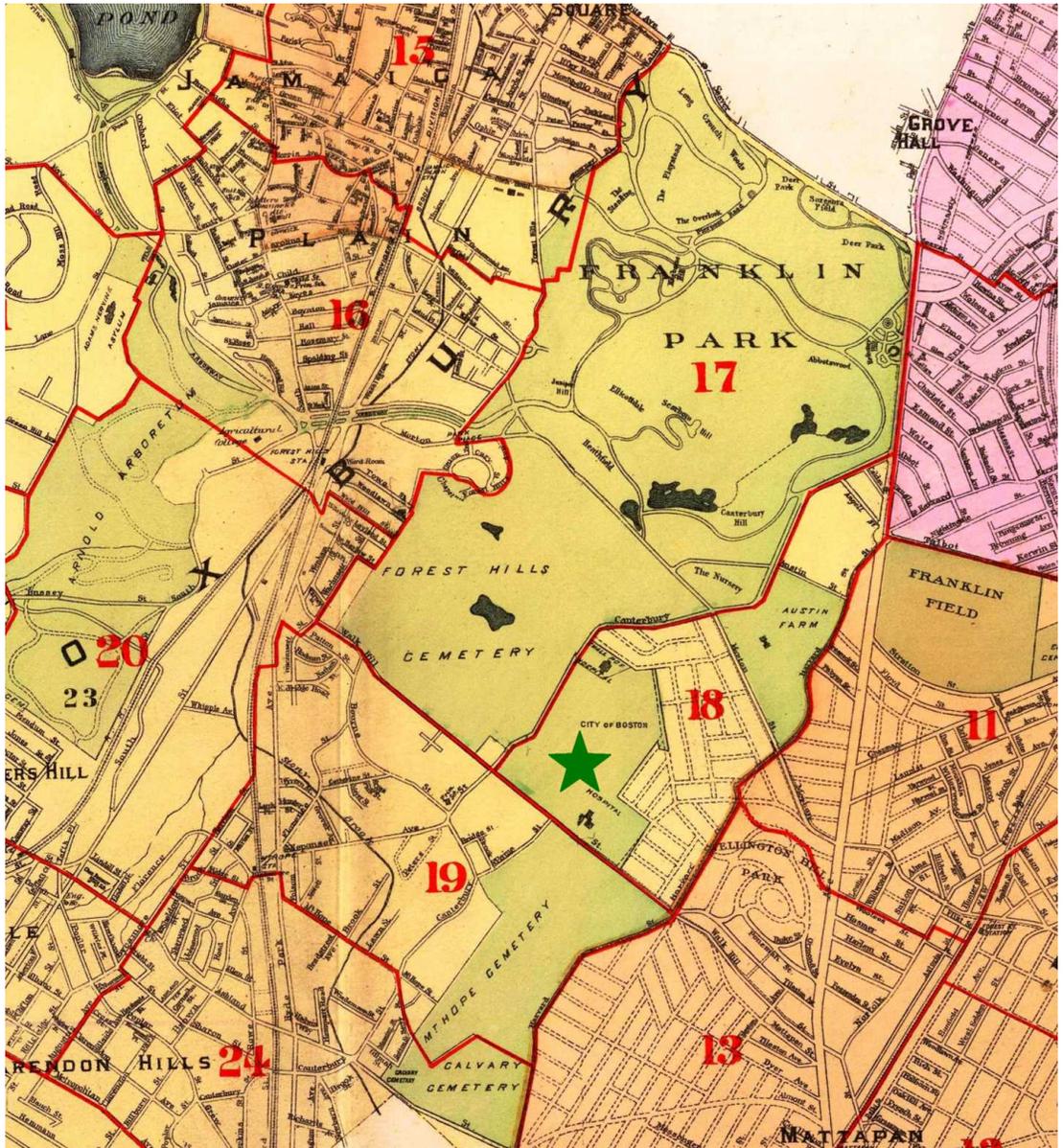
Plate 1. This detail from a 1797 German map of Massachusetts by D. F. Sotzmann shows Roxbury, Dorchester, and other independent towns near Boston. The green star indicates the approximate location of the future Boston Nature Center, on the Roxbury side of the Roxbury-Dorchester town line. The little church depicted nearby is the one founded in Jamaica Plain in 1772. Map reproduction courtesy of the Norman Leventhal Map Center, Boston Public Library.



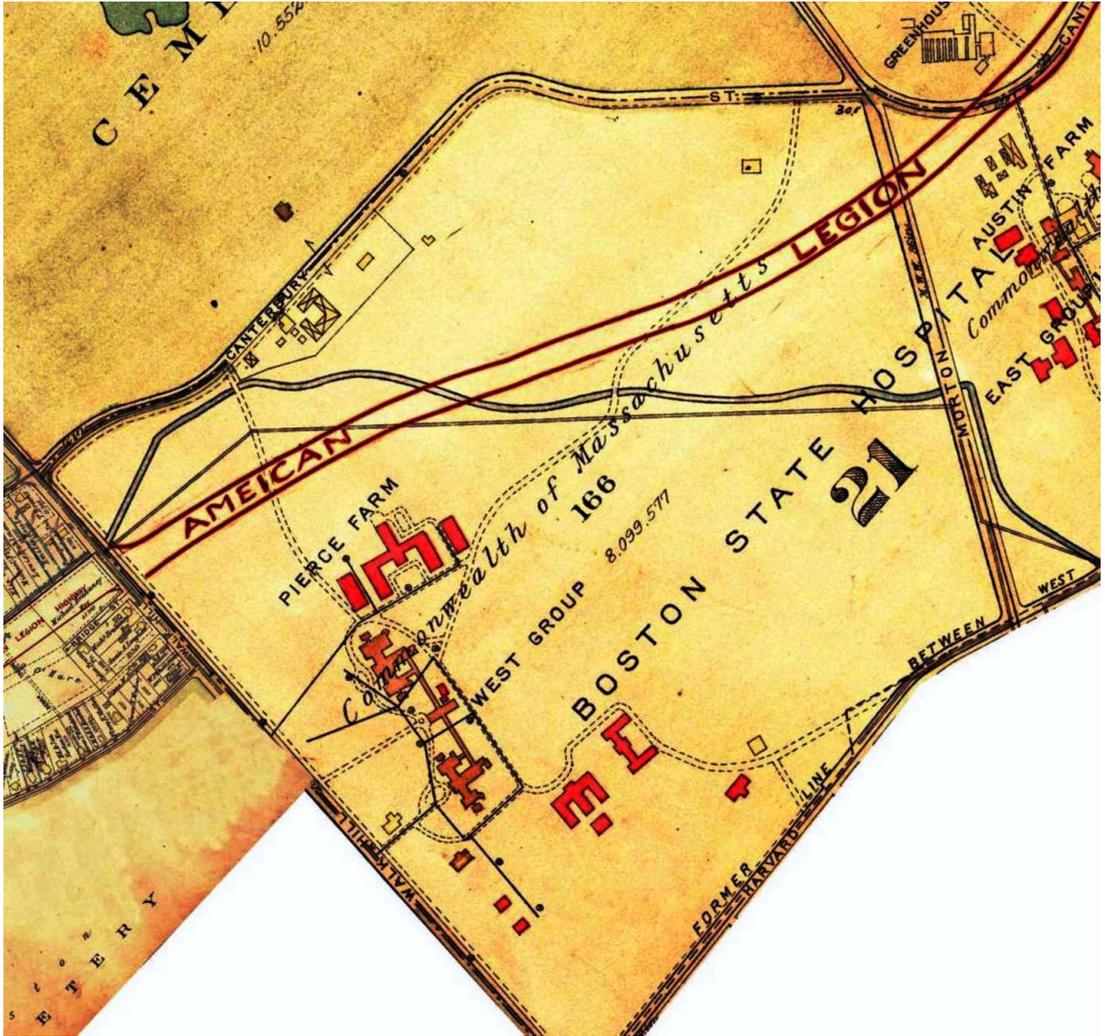
**Plate 2.** This detail from an 1852 map of Boston and vicinity by F. G. Sidney shows the part of the Canterbury Brook watershed bounded by Walk Hill, Harvard, and Canterbury streets—the area that is home to the BNC today. At that time, the area was part of the new town of West Roxbury, which had voted for independence from Roxbury the preceding year, in part in order to maintain the town's rural character. The map also indicates the names of some of the early residents of the area, including Isaac Williams, Joseph Lambert, and Mrs. Joseph Morton—but notice that it does not indicate either Morton Street or the American Legion Highway, neither of which were built at the time. *Map reproduction courtesy of the David Rumsey Map Collection / Cartography Associates.*



**Plate 3.** By 1884, as indicated in this plate from an atlas of West Roxbury by G. W. Bromley, a new set of owners and residents had come into the land. Note also the straightened channel of the brook and the presence of Morton Street. *Map reproduction courtesy of the Norman Leventhal Map Center, Boston Public Library.*



**Plate 4.** In 1874, West Roxbury became part of Boston, joining other once-independent towns such as Dorchester and Brighton. This detail from an 1899 atlas of the new neighborhoods of Boston by L. J. Richards shows some of the many significant open spaces located in the former rural town, including Franklin Park, the Arnold Arboretum, Forest Hills and Mount Hope cemeteries, and the new buildings of the Boston Insane Hospital (indicated by the green star), which was relocated from South Boston to the site of the future BNC in 1894. *Map reproduction courtesy of the David Rumsey Map Collection / Cartography Associates.*



**Plate 5.** This 1924 Bromley atlas gives a close-up of the Boston State Hospital, which included both the West Group/Pierce Farm—site of the future BNC—and the East Group/Austin Farm (on the far right of the picture). The depiction of American Legion Highway was inserted sometime later, by hand; the highway was planned and built in the early 1930s. Note also the changes in the channel of the brook as compared to that shown in Plate 3. (The straight line alongside the brook represents a sewer line.) *Map reproduction courtesy of the Norman Leventhal Map Center, Boston Public Library.*



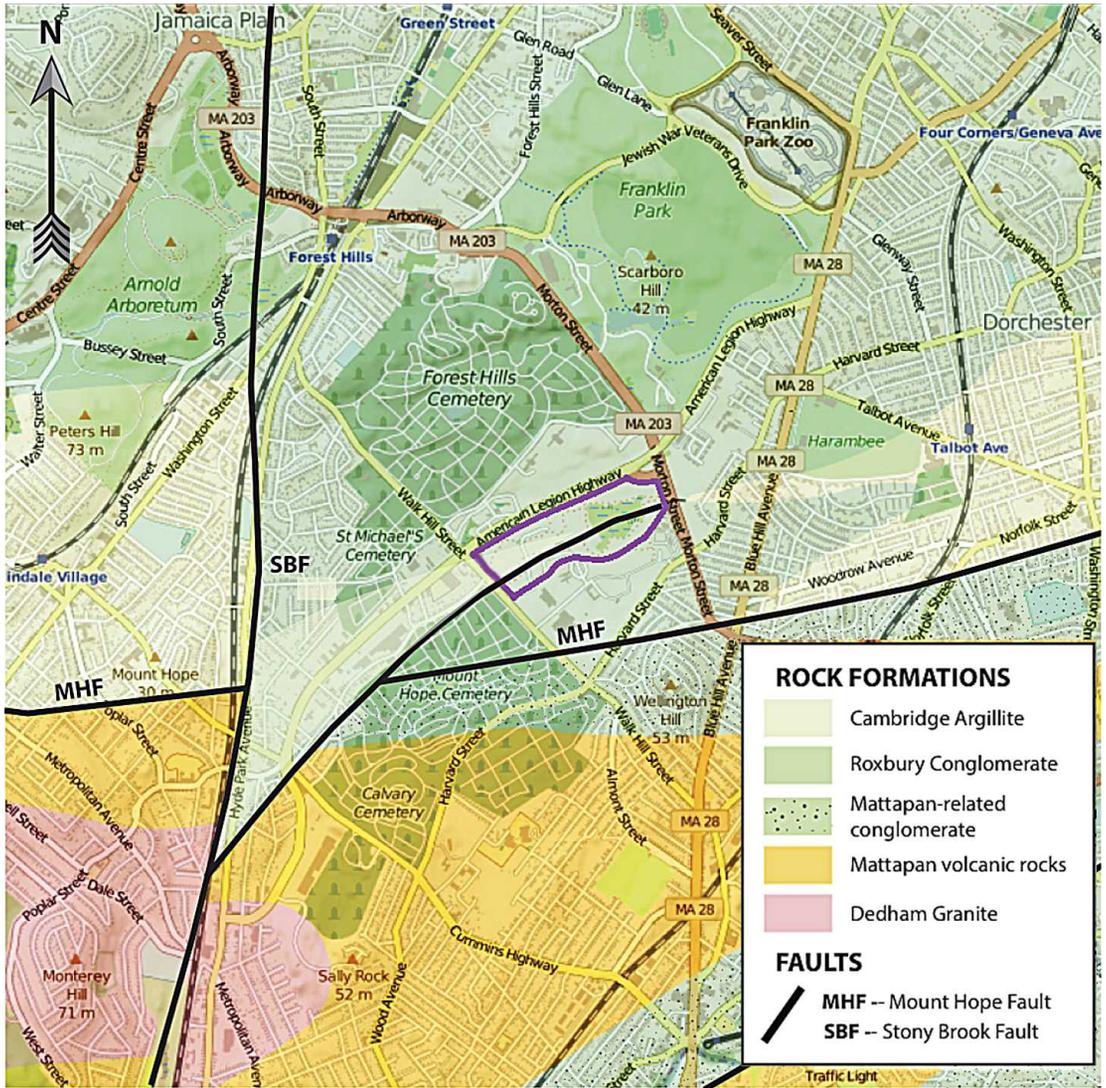
**Plate 6.** This U.S. Geological Survey aerial photograph of the Boston State Hospital in 1955 shows the many new buildings and roadways built during the previous thirty years, which significantly reshaped the topography of the site. In the bare patch in the middle—near the Snail Trail today—the ground has been elevated for the expansion of Myerson Road, while other areas have been lowered and leveled to accommodate ever-larger hospital buildings. Meanwhile, the hospital land once used for farming—including filled-in wetland—is slowly reverting to marsh and meadow. *Reproduction courtesy of the United States Geological Survey.*



**Plate 7a.** A 1995 aerial photograph by the Boston Water and Sewer Commission shows the full extent of Boston State Hospital buildings and of the Clark-Cooper Community Gardens (on the left side of the image). *Image courtesy of The Boston Atlas/Boston Redevelopment Authority.*



**Plate 7b.** This 2005 aerial photograph by MassGIS records some of the changes involved in creating the BNC: the removal of hospital buildings and roads, the consolidation of the community gardens, and the construction of trails and the George Robert White Environmental Conservation Center. *Image courtesy of The Boston Atlas/Boston Redevelopment Authority.*



**Plate 8.** Geology of the area around the Boston Nature Center (outlined in purple). Roxbury Conglomerate and Cambridge Argillite in the northern half of the map are cut off by the Mount Hope Fault; south of the fault, older conglomerate (stippled green pattern) was deposited during Mattapan volcanism. Although no bedrock is exposed in the BNC, research indicates that it is underlain by both Cambridge Argillite and Roxbury Conglomerate. The short fault curving through the BNC records additional fracturing from motion of the Stony Brook Fault. Other geological features mentioned in the text include Wellington Hill (just southeast of the BNC) and Sally Rock (to the southwest). Map from <http://mrddata.usgs.gov/geology/state> (after 1983 *Bedrock Geologic Map of Massachusetts*) has been further modified to reflect more recent work in the area.

## The Land before Us

The land itself was a migrant, arriving here only after distant origins and unexpected travels.

The bedrock upon which the Boston Nature Center and Wildlife Sanctuary rests did not form in its present location. Indeed, according to established concepts of plate tectonics, the entire surface of the earth is not as solid as it appears. Rather, the earth's crust and uppermost mantle are divided up into about twenty huge sheets or plates of rock, averaging sixty miles in thickness, each of which carries different parts of the oceans and continents on its back. These plates sit atop deeper layers of denser rock, across which they slowly slide, driven by heat arising from earth's moving, molten core and deep, but solid, mantle—drifting about the globe like half-submerged leaves swirling slowly in a crowded pool. As they jostle and collide, the plates unite for a while and then separate, like (to use another inadequate metaphor) gigantic dancers coming together and then drifting apart, creating new continents and oceans as they swirl and glide.

When a plate topped by ocean floor moves toward a plate topped by a continent, the denser oceanic rock sinks downward in a process called *subduction* that carries the surface rocks to great depth, where temperatures and pressures are very high. Under these conditions, rocks can either be transformed as solids into entirely different substances—think firing a clay pot in a kiln—or melt into liquid magma. Some of the magma rises back to the surface, solidifying and cooling at various rates to form granite or volcanic rocks, while residual parts of the plate blend back into the earth's mantle. In other places (usually oceans), plates move away from each other, forming fault-bounded *rift valleys* where volcanoes and vents allow fresh material—including rock previously recycled through subduction—to emerge from the mantle, supplying new bedrock to a growing plate. Even without dramatic collision or separation, the intense pressure when plates press against or slide past each other causes fractures, faults, and folding in the sheets of bedrock. Throughout these geological processes,

all that pressure, heat, and motion produces an irregular yet steady rhythm of volcanoes and earthquakes—raucous music for the global dance.

Through the slow, grinding movement of these tectonic plates, continents and oceans have been created, torn apart, and reformed in new ways repeatedly over billions of years of geologic time. Usually, when two plates separate, they leave bits of themselves in the other, clues that scientists can assemble to track the paths of the plates' wanderings. For example, if you find the exact same kind of rock, with the exact same kind of fossil, in two sites on opposite sides of the ocean, you can guess that those two sites (and the tectonic plates upon which they sit) once butted against each other, before tectonic movement created the ocean that is now between them. You can gather more clues by analyzing the chemical composition of the rock, which can reveal some of the conditions of its creation—whether it formed from magma cooling beneath the earth's surface, or lava spewing from a volcano, or sediment settling peacefully on the ocean floor, and even exactly *which* magma, or lava, or sediment it came from. And with state-of-the-art methods of dating rocks by measuring ratios of uranium and lead related by radioactive decay, you can say with startling accuracy (within a million years!) when those rocks were formed, and when those plates were joined and separated, arranging your clues in time as well as space; and when you have lots and lots of such clues, you can put them together and start to decipher the exact journey that that rock (and the plate beneath it) has taken on its tectonic migration, and how it relates to other partners in the global dance. At least, you can if you're a geologist!

Through such insights, we can now tell a pretty definite story about how the bedrock beneath the Boston Nature Center came to be what it is and where it is (though new data will inevitably lead to future refinements). Around 610 million years ago, the tectonic plates carrying most of what are now Africa and South America lay side by side in the Southern Hemisphere, and subduction along their shared edge had resulted in the creation of a chain of connected volcanic islands called Avalonia (resembling modern-day Japan or the Aleutians). At that time, the crust of that part of Avalonia that eventually would become much of eastern Massachusetts was invaded by a large volume of magma that solidified at depth as pink-to-gray rock called Dedham Granite, among others. A few million years later, a similar kind of magma seeped and burst through this granite to emerge in volcanic formations around and west of what is now Mattapan Center, cooling at the surface to form a finer-grained, silica-rich (felsic) rhyolite. (Exposed near the BNC at Sally Rock and other local sites, this hard volcanic rhyolite would be used by the first human inhabitants of the area to make projectile points and tools for cutting and scraping, as we will see in the next chapter.)

Over another few million years, much of the granite in the area around what is now Boston—by then “unroofed” by the erosion of overlying rocks—was blanketed first by river-borne gravel and sand and later by muddy marine deposits, which in time would harden into specific types of sedimentary rock, forming the bedrock in the area that geologists refer to as

the Boston Basin. The first few types of rock to be laid down were conglomerates, i.e., sedimentary rock with pieces of other types of rock embedded within it. The initial layers of conglomerate contained mainly pebbles and cobbles eroded from Mattapan felsic rocks and older granites; later layers are what geologists call Roxbury Conglomerate—including the famous “puddingstone”—in places hosting large boulders of granite and quartzite. For over a century, geologists have distinguished three major sequences of puddingstone, named after the areas they were first studied—Brookline, Dorchester, and Squantum—but recent work introduces a new (and earlier) sequence, named after Forest Hills. All of these layers of conglomerate developed around 595 to 585 million years ago, at a time of waning volcanic activity in the region.

**Timeline of Major Geological Events in the History of the Site of the BNC**

*Following standard geological practice (the “law of superposition”), the oldest events and related rocks are found at the bottom of the table.*

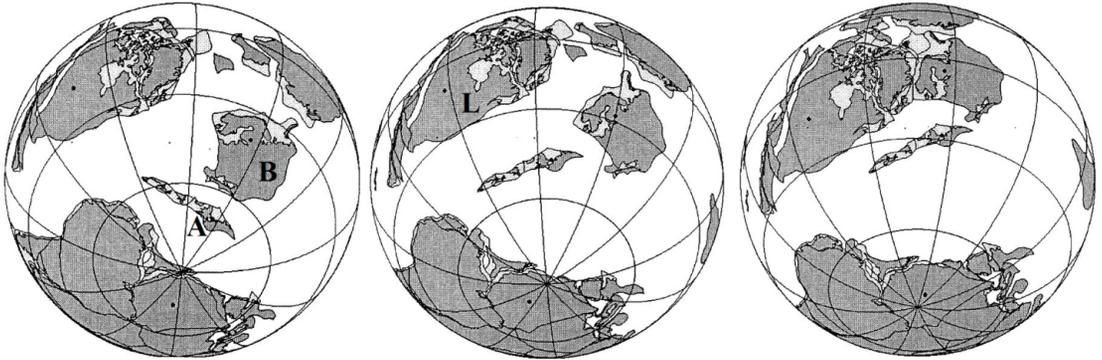
<b><u>Years Ago</u></b>	<b><u>Major Events</u></b>
<b><i>Thousands</i></b>	<b><i>Glaciation</i></b>
12.5	End of Wisconsin glaciation; beginning of current interglacial period
15	Massachusetts ice-free
18	Laurentide ice sheet begins retreating
24	Laurentide ice sheet reaches maximum extent
120	Wisconsin glaciation begins
<b><i>Millions</i></b>	
2.58	Quaternary ice age begins
	<b><i>Episodes of Continental Drift</i></b>
100	Laurasia breaks into North America and Eurasia, dividing Avalonia in two
175	Breakup of Pangaea; Avalonia part of Laurasia
300-275	Final union of landmasses into Pangaea
420	Beginning of Avalonian collision with Laurentia-Baltica
440	Baltica collides with Laurentia
490	Avalonia begins breaking away from Gondwana, toward Baltica and Laurentia
	<b><i>Subduction-Related Activity Creating the Boston Basin</i></b>
570	Slowing of subduction and volcanic activity; deposition of Cambridge Argillite
595-585	Roxbury Conglomerate (puddingstone) deposited as layers of gravel and sand
597-593	Mattapan volcanic eruptions
610-590	Dedham and other granites emplaced in Avalonian crust bordering Gondwana

By around 570 million years ago, tectonic subduction and volcanism had long ceased, and this relative calm allowed the gentle deposition of a new kind of sedimentary rock derived from silt and clay—the finer-grained, green-to-gray Cambridge Argillite—over the whole northern part of the Boston Basin (approximately north of the Massachusetts Turnpike), as well as a smaller band from Dorchester Center to Roslindale. Although the BNC contains no bedrock exposures, excavation of the MWRA's Dorchester Tunnel (which passes under the eastern end of the sanctuary, along Morton Street) shows that at least part of the BNC is underlain by Cambridge Argillite, while other parts rest upon Roxbury Conglomerate (see Color Plate 8). Not far to the south lie major bodies of older conglomerate, Mattapan volcanic rock, and Dedham Granite, and loose stones of all of these kinds of rock (and more) can be found on and within the grounds of the sanctuary.

Through processes such as these, the basic structure of the Boston Basin—including the bedrock upon which the BNC sits—developed while Avalonia was still on the rough edge of the joined African–South American continent, somewhere in the Southern Hemisphere. Meanwhile, larger tectonic changes were taking place around Avalonia. By around 500 million years ago, Africa–South America had drifted to the South Pole and had been joined by the ancient cores of Antarctica, Australia, Arabia, and other regions to form the giant landmass Gondwana. Then, beginning sometime around 490 million years ago, Avalonia broke away from the Gondwana plate, becoming its own microcontinent and joining the larger continents on their tectonic-driven dance around the globe. Moving northward, Avalonia first seemed to be on a collision course toward Baltica (the landmass that



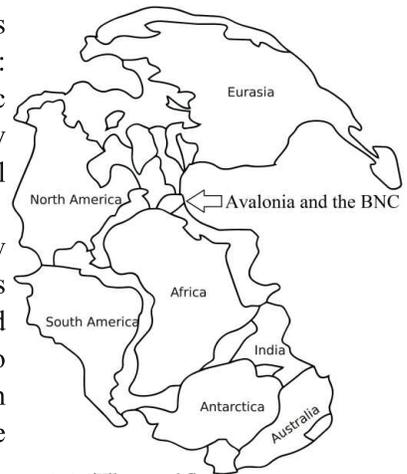
1.1. The Southern Hemisphere about 480 million years ago. Everything inside the dotted lines—including the future continents of South America, Africa, Antarctica, and others—was part of the giant landmass Gondwana. Off Gondwana sat little Avalonia, including the future Boston Basin and the BNC. Other major landmasses included Laurentia (on the left), the ancient core of North America (you can see the outline of Greenland, Labrador, and Hudson Bay); and Baltica, which would become northern Europe (the coast of Scandinavia is evident). *Adapted from L. R. M. Cocks and T. H. Torsvik, "Earth Geography from 500 to 400 Million Years Ago," Journal of the Geological Society, London 159 (2002).*



1.2. One reconstruction of Avalonia's journey to Laurentia: (*left*) Avalonia (A) leaving Gondwana toward Baltica (B), 470 million years ago; (*middle*) moving with Baltica toward Laurentia (L), 450 million years ago; (*right*) about to join with already-merged Laurentia and Baltica, 430 million years ago. *Adapted from D. C. Lees, R. A. Fortey, and L. R. M. Cocks, "Quantifying Paleogeography Using Biogeography," Paleobiology 28, no. 3 (2002).*

would later develop into northern Europe)—but then they both turned toward Laurentia, the name given to North America at that time. According to one reconstruction, Baltica got there first, and by the time Avalonia arrived, its western half docked against Laurentia while the eastern part nestled against Baltica. Avalonia's arrival at and collision with Laurentia took place between about 421 and 400 million years ago. This was not the first tectonic addition to eastern Laurentia: evidence for earlier phases can be found in the Taconic Range of western Massachusetts, and in a more easterly belt that includes Mount Wachusett in central Massachusetts and Mount Monadnock in New Hampshire.

But the tectonic dance didn't stop there: America (now western Europe), having similarly broken off from its mother Gondwana years before, drifted over and snuggled up against its older sibling, further pressing Avalonia into Laurentia and leading to younger mountain-building within eastern North America and Massachusetts. Finally, some 300-275 million years ago, somewhere near the equator, Gondwana itself lumbered over and joined the party, uniting all the major landmasses and creating the supercontinent Pangaea (whose name means "all earth")—with Avalonia in the middle. At that time, some mountains in New England may have been as high as the Rockies are today.



1.3. The unified supercontinent of Pangaea, with Avalonia (and the BNC) squashed between North America and Europe. *Adapted from Wikipedia image created by Kieff, used under Creative Commons BY-SA 3.0 license.*

In the midst of all this pressure and motion, the various bedrock layers of the Boston Basin continued to be folded, fractured and faulted, twisted and tilted. Major faults in the area include the north-south Stony Brook Fault and the east-west Mount Hope Fault, the two faults intersecting at a point around where Cummins Highway and Hyde Park Avenue cross today, southwest of the BNC; a related fracture branches off the Stony Brook Fault and passes through the BNC (again, see Color Plate 8). Early movement on the Mount Hope Fault helped create the depression that soon filled up with Cambridge Argillite. Stony Brook Fault motions probably date from much later, since similar north-south faults in Rhode Island's Narragansett Basin cut deposits rich in 300-million-year-old fern fossils—deposits that must have been laid down *before* motion in the fault.

And, of course, even a supercontinent like Pangaea would not survive the inexorable force of the moving tectonic plates. When Pangaea broke up, around 175 million years ago, Avalonia, Baltica, Laurentia, and Siberia all stuck together in a new landmass, Laurasia; and when Laurasia itself broke apart into Eurasia and North America, the two new continents divided Avalonia between them. So, today, remnants of ancient Avalonia are found in a broad arc between Europe and North America—in central Europe; in parts of France, Spain, and the British Isles; across the Atlantic Ocean to the Canadian Maritimes and southern New England; and on to the Carolinas and Florida. Throughout this lengthy belt, subduction-related granites and volcanic rocks of similar Latest Precambrian age are overlain by sedimentary sequences ending with shallow marine shales full of Cambrian trilobites. These are the shared geological characteristics that define Avalonia.



1.4. The separation of Avalonia (in black), as Pangaea was just beginning to break up into the continents that exist today. From R. Damian Nance, J. Brendan Murphy, and J. Duncan Keppie, "A Cordilleran Model for the Evolution of Avalonia," *Tectonophysics* 352 (2002).

In the millions of years since the breakup of Laurasia, North America has continued to drift slowly away from Europe—generally toward the Pacific tectonic plate, which is currently subducting beneath Washington, Oregon, and northern California to produce the mighty Cascades. Meanwhile, as South America has similarly moved away from Africa, the North and South American plates have been spinning slowly toward their current

orientation—eventually trapping the Caribbean plate between them, creating active volcanoes in Central America as well. And the tectonic dance hasn't stopped: the entire North American plate, with the BNC atop it, is moving south-southwest at a rate somewhere around an inch a year, helping cause earthquakes and volcanoes on the Pacific Coast and in Central America and the Caribbean.

Although New England has been tectonically quiet (except for occasional minor earthquakes) for millions of years, other kinds of geological processes have continued to shape the landscape. The once-mighty mountains have been eroded by wind and water to their present gentle ranges today, and in the recent geological past—beginning about 2.5 million years ago—the landscape has been thoroughly transformed by the appearance and disappearance of ice.

Glaciation—the formation of huge sheets of ice that expand and contract over large parts of the earth's surface—is caused by a number of factors, including periodic changes in earth's orbit and tilt, changes in the composition of the atmosphere (such as may result from extensive volcanic activity), continental drift (plate tectonics), and modification of ocean currents. Scientists have theorized five major ice ages in earth's history, each millions of years long; the second of them began while Avalonia was being born off Gondwana. The most recent ice age, termed the Quaternary glaciation, began around 2.58 million years ago, partly as a result of the movement of the North and South American continental plates to approximately their present configuration (joined at Panama)—which halted the current between the Atlantic and the Pacific, changed overall ocean currents so as to reduce the flow of heat from the equator to the North Pole, and thus allowed cooling of the pole, triggering glaciation. We are still considered to be living in the Quaternary ice age, since glaciers still cover around 10 percent of earth's land surface—in the Arctic, the Antarctic, and high mountain ranges like the Alps and the Himalayas.

Within each ice age, long periods of cold conditions and extensive ice, known as *glacial periods*, alternate with warmer times, called *interglacials*. Over the past 740,000 years, there have been at least eight glacial periods, each of which involved different sets of ice sheets advancing over different land areas. In North America, the most recent glacial period began perhaps 120,000 years ago and included the expansion of mountain glaciers in the Rockies and the Sierra Nevada as well as the larger, continent-spanning event referred to as the Wisconsin glaciation, which itself involved a number of separate ice sheets advancing down from the Arctic: the Cordilleran ice sheet in the Far West, smaller sheets in the Canadian Arctic and in Greenland, and, biggest of all, the massive Laurentide ice sheet covering central and eastern North America.

As the ice sheets slowly advanced, they scraped off whatever topsoil there was and even ground away part of the bedrock, obliterating many existing landscape features but creating some new ones as well. In New England, some of the most characteristic creations of the

Laurentide ice sheet were *drumlins*, long, low hills that still dot the landscape of Massachusetts, alone or in groups. Drumlins are formed when a glacier moves over a resistant core, which might be a projection of solid bedrock, a formation left behind from an earlier glacial cycle, or a pile of material deposited there by the current glacier itself. As it moves over the core, the glacier grinds down some parts of the core at the same time as it adds material to other parts, shaping the drumlin into a characteristic oval form oriented in the direction of ice flow—which in this part of Massachusetts was generally to the southeast. While the surrounding area is being lowered by the glacier's usual scraping action, the drumlin may end up higher than it was before, and in any case rises above the surrounding area anywhere from 10 to 150 feet. So, just to the southeast of the BNC, the glaciers sculpted Wellington Hill, a medium-sized drumlin some 160 feet high, sloping gently down to what is now Canterbury Brook. (Since then, the slope has been changed—most significantly by human activity, including the levelling of the area that is now the large meadow near the BNC's entrance—but you'll have to wait until later chapters for that whole story.)

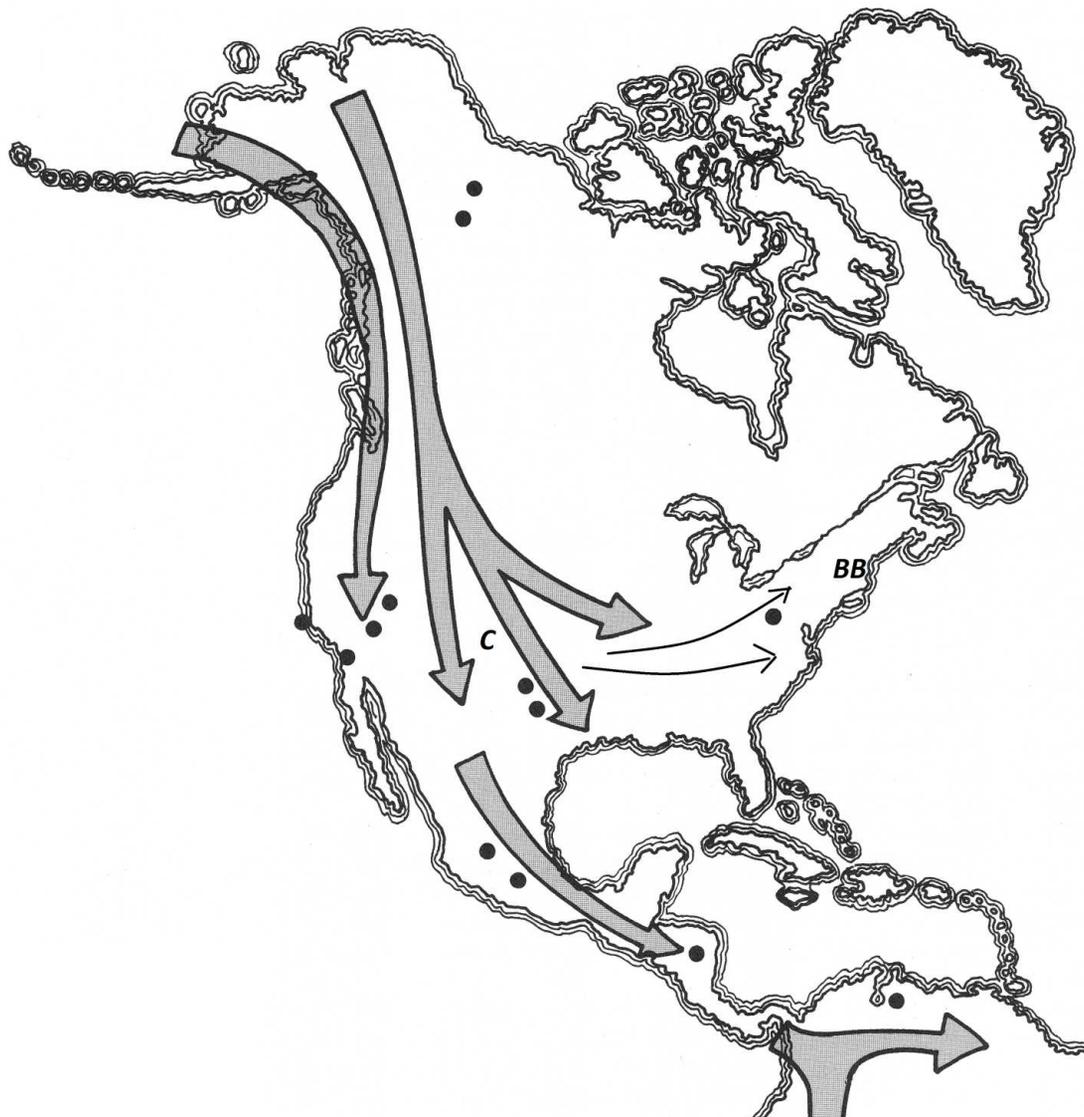
The Laurentide ice sheet reached its maximum extent around 24,000 years ago, at which time it was as far south as New York City—though around Boston (and elsewhere in the interior of the sheet) glacial ice may have continued flowing south for some time after that, scouring the land yet deeper and further sculpting drumlins and other formations. Around 18,000 years ago, the ice began to melt and retreat, and by 15,000 years ago, Massachusetts was ice-free. As the glaciers melted, all the stuff that they had picked up as they had grown—silt, clay, sand, and rocks from small pebbles to large boulders, much of it broken off or ground down by the motion of the glacier itself, and collectively called *glacial till*—was deposited on the entire landscape, thickly on the recently scoured bedrock and more thinly on the slopes of drumlins or other previous glacial formations. With further weathering—and eventually with the active, transforming presence of bacteria, microbes, worms, and other tiny animals and plants—this glacial till became living soil, with organic matter (humus) and other qualities capable of supporting larger forms of life.

On the site of the BNC, most of this soil is what geologists call *loam*, with sand, silt, and clay in roughly equal proportions. Over time, though, slight differences in soil composition, as well as differences in drainage qualities dictated by the underlying bedrock and by the soil itself, nurture different communities of soil bacteria and more-complex life-forms—all of which in turn change the nature of the loam itself, in different ways in different places. So the uplands of the BNC—lying on the edge of the drumlin slope down from Wellington Hill—are covered with well-drained Woodbridge fine sandy loam, while the west corner of the sanctuary includes two other kinds of sandy loam, Whitman and Ridgebury, both of which are covered by layers of compacted glacial till and are poorly drained. Around the marsh and the brook, the soil is a loam with a higher percentage of silt, called Saco, with a layer of clay beneath it. Notice that the very existence of the marsh is partly shaped by the

soil itself (silty soil and clay drain less well than other soils), but also by many of the other geological factors mentioned above: the porosity of the underlying bedrock, the presence of faults and fractures channeling and releasing water from within and under the bedrock, and the marsh's elevation and position relative to the Wellington Hill drumlin, as well as by the overall drainage pattern of the surrounding area.

So, when you dig your hand into the soil of the BNC, you're touching over 600 million years of global history. Born from molten magma that cooled to form Avalonia before it was part of North America, the Boston Basin was lifted up, ground down, and bounced around by great tectonic forces, undergoing a long, strange, transformative dance across oceans and continents (which themselves were undergoing constant upheaval). And as the land migrated, it changed, as did the myriad forms of life upon it, until all was scraped clean and transformed again by the glaciers—only to start afresh with the rocks, sludge, and water that the glaciers left behind, as geology and biology combined to create the particular qualities of a unique place.

And then, some 10,000 years ago, some new inhabitants set foot on the land—humans.



2.1. The wide arrows show the approximate migration patterns of early Americans up to around 13,500 years ago, from across the northwestern land bridge from Asia through North America and on into Central and South America. Dots represent major early Paleo-Indian sites; "C" is the approximate location of Clovis, New Mexico, whose name is associated with the earliest North American culture. The small arrows indicate later migration to the New York State area and to the Mid-Atlantic, which eventually continued to New England. "BB" marks the Bull Brook site in Ipswich, Massachusetts (about thirty miles north of the BNC), dated to about 12,700 years ago—the oldest known Paleo-Indian site in New England. *Adapted from Juan Schobinger, The Ancient Americans, vol. 1 (Armonk, N.Y.: Sharpe Reference, 2001).*

## First Peoples

Some 3.3 million years ago, long before the start of the last glacial epoch, early human ancestors in East Africa were making and using stone tools—knives and scrapers—to cut meat from animal carcasses. Then, perhaps 1.8 million years ago, *Homo erectus* began the first of successive waves of human migration out of Africa into Eurasia. By 500,000 years ago (and perhaps much earlier), fire was being used for cooking; and the discovery of a site in Europe containing spear points and animal bones indicates that by 300,000 years ago, early humans had developed the technology and social structure required for big-game hunting. All these and other cultural inventions were inherited by modern humans, *Homo sapiens sapiens*, who evolved in Africa about 200,000 years ago—and who themselves began to migrate into western Asia some 100,000 years ago. Living in small, mobile bands and using those basic cultural achievements of their ancestors—stone tools, fire, and the abilities to hunt large animals and to migrate—modern humans spread through Europe, southern Asia, and Australia before pressing into northern Asia and Siberia.

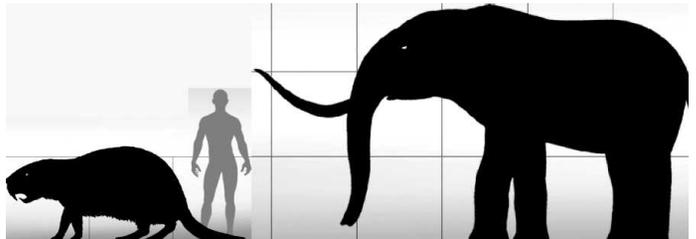
Then, sometime around the last glacial maximum—between 45,000 and 15,000 years ago—low sea levels opened a land bridge between Siberia and Alaska, allowing the first groups of hunter-gatherers to follow herds of mammoths, ancient caribou, and other large game animals into America. While there is still uncertainty about the specific dates and patterns of migration, it is clear that by 13,500 years ago, these first Americans—referred to as *Paleo-Indians* or *Paleoamericans* (from the Greek *paleo-*, "ancient")—had migrated through glacier-free corridors down the western side of North America and spread into the central and southern regions of the continent, as well as continuing down into Central and South America.

Throughout this new world, Paleo-Indians found new kinds of mammals—horses, camels, short-faced bears, giant beavers and sloths, and many others—which they learned to hunt with increasing effectiveness. Numerous archaeological finds document that many of these

earliest Americans shared a distinctive way of making spear points with fluted, channeled edges; since the first examples of these points were found near Clovis, New Mexico, the culture that used them is referred to as the Clovis culture—the first widespread North American tradition, though it is unclear whether it was brought here from Siberia or developed indigenously. Subsequently, at different times and places, different styles of fluted points emerged—larger or smaller, straight or flaring, fully or partially fluted, and so on—as toolmakers honed their craft, adapted to new landscapes and kinds of animals, and distinguished their work through aesthetic styles. Interestingly, the ways that the Paleo-Indians made other, more everyday tools—knives, scrapers, chisels, and so on—stayed more or less the same over thousands of years, probably because the functions that these basic tools were designed to perform stayed the same. Since the spear and projectile points show the most creativity and diversity, they are what archaeologists use to identify changing cultural traditions, but the everyday tools were equally essential to survival—a successful hunt is worthless if you can't dress the carcass and make use of the food and fiber.

Moreover, many sites also include miniature fluted points, too small for use in hunting but probably addressing educational or cultural goals—they might have been made for children to help them learn hunting skills, or made *by* children to learn toolmaking, or perhaps created as sources of magical power or religious significance. Through such means, these ancient peoples passed on their skills and knowledge to future generations and forged a sense of continuity and meaning in a world of change, chance, and opportunity.

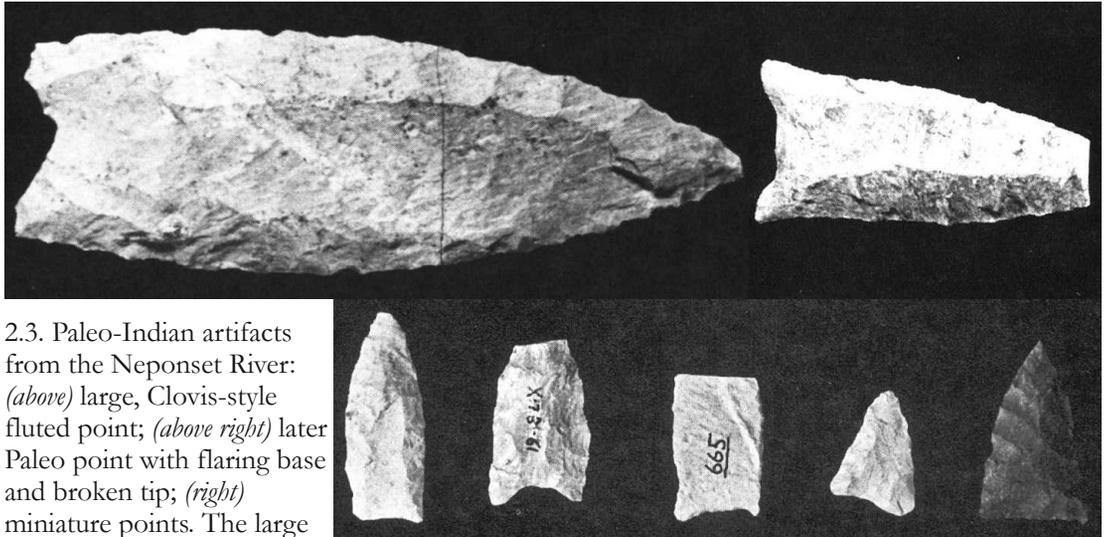
In time, as the glaciers melted and the seas rose, the land bridge disappeared, closing off any new migration from Asia—these new Americans were now on their own. Some of them stayed on the move, though, as the receding glaciers exposed vast new territories in what is now the northern U.S. and Canada. Initially a cold, dry, inhospitable tundra colonized only by sedges and grasses, the warming land soon hosted an evolving patchwork of grasslands, shrubs, and boreal forest—spruce, jack pine, red pine, and some birch and alder—that was attractive habitat for both large and small animals. Following the game upon which they depended almost completely for their sustenance and shelter, the Paleo-Indians continued their migrations from the central and southern U.S. on up into the Northeast, the Maritimes, and beyond. In New England, bones of giant beaver and mastodon (which are known to have been hunted elsewhere in North America) have been found that date to the same time as Paleo-Indian sites, though no evidence has been found that they were hunted here. Rather,



2.2. Early New Englanders shared the land with giant beaver (left) and mastodon—though they probably didn't stand this close to them! *Adapted from [www.Prehistoric-wildlife.com](http://www.Prehistoric-wildlife.com).*

Paleo–New Englanders' favorite big game was most likely caribou—the same species that their ancestors had pursued across the land bridge from Siberia.

The earliest Paleo-Indian archaeological site in New England, and one of the biggest in North America, is the Bull Brook site in Ipswich, Massachusetts, which was a major campsite and toolmaking center around 12,700 years ago. A little later, and closer to the Boston Nature Center, a site by the Neponset River in Canton was inhabited by a few families for just two or three seasons around 12,000 years ago. At both Bull Brook and Neponset, Paleo-Indians used Clovis as well as later designs to fashion a wide variety of tools for specific purposes: light stone-tipped spears for throwing at large animals from a distance; heavy spears for disabling prey close up; sharp bone-tipped spears for the final thrust; and a range of smaller spears, clubs, and snares for smaller animals like fox, hares, and birds. They also manufactured knives, scrapers, gouges, drills, hammers, and other specialized implements for processing the animals, for cooking, for making clothes and shelter, and of course for toolmaking itself. While many artifacts discovered in the area were made from rocks from distant sources—suggesting the existence of trade or migration routes connecting eastern Massachusetts to northern New Hampshire and Maine, and as far away as New York and Pennsylvania—other tools were made from local rocks, such as Mattapan felsic rhyolites found at exposed quarries at Sally Rock, Mattapan Center, and elsewhere. And while some points and tools were made in traditional forms that had developed over centuries to the south and west, others were created in new, local styles, exhibiting the people's constant creative adaptation to the world around them.



2.3. Paleo-Indian artifacts from the Neponset River: (above) large, Clovis-style fluted point; (above right) later Paleo point with flaring base and broken tip; (right) miniature points. The large point is about 11 centimeters long; other images are approximately to scale. From Frederick M. Carty and Arthur E. Speiss, "The Neponset Paleindian Site in Massachusetts," *Archaeology of Eastern North America* vol. 20 (Fall 1992).

At this point, it's important to make clear that we have no record of any Paleo-Indian artifacts—or artifacts from any period before European contact, for that matter—ever having been found at the site of the Boston Nature Center. And, given what we know about how these ancient peoples lived, the location of the BNC probably wouldn't have offered any of the landscape features that would have made it an attractive site for a significant settlement, either temporary or long-term: springs and clear-flowing water, protection from prevailing northwest winds and from storms in fall and winter, or elevated vantage points from which to spot game or danger (all qualities evident at the Bull Brook and Neponset sites mentioned above). Rather, throughout the entire history covered in this chapter, the landscape of the BNC most likely was known and visited only by occasional hunting parties. That said, there's every probability that small groups of Paleo-Indians—equipped with points, spears, and other tools like those discussed here—*did* wander up from Sally Rock or Mattapan to wait patiently beside the BNC's wetland for caribou, waterfowl, or small game, or perhaps to gather any plant-based food or fiber they might find in season. But they probably didn't stay there very long at a time, and they left little trace—at least, none that we have found.

With an increasingly complex culture and technology, well adapted to a range of particular geographical locations and environmental conditions, Paleo-Indians flourished in America—and in New England—for many hundreds of years. Their success at hunting large mammals may have achieved a level of food production equivalent to much later agricultural civilizations, and as populations increased, they may have moved from a family- and small-group social structure to something approaching a tribal society. Beginning around 11,500 years ago, however, things began to change—drastically. Probably as a result both of a temporary recurrence of colder weather (called by climatologists the Younger Dryas period) and of centuries of "successful" *over*hunting by the Paleo-Indians, the large game animals began to disappear. By 10,000 years ago, mammoths, horses, camels, giant beavers, and other native species were extinct throughout the Americas, and other species such as the all-important caribou were scarce. Without the game upon which it depended, the whole way of life of the Paleo-Indians collapsed; populations plummeted, and camps and other sites were abandoned for centuries. In time, though, the descendants of the Paleo-Indians recovered, and reconstituted their cultures and communities to adapt to the new conditions—perhaps with some awareness of the ways in which they themselves had contributed to the catastrophe, as reflected in later Native American ethical traditions of respectful hunting and being mindful of future generations.

What might we learn from this history today, as we face our own uncertain future of climate change and an overburdened earth?



The next period of ancient inhabitation of the Americas is referred to as the *Archaic* period, and is divided into Early (10,000-8,000 years ago), Middle (8,000-5,000 years ago), and Late (5,000-3,000 years ago). In southern New England, after the temporary cold period of the Younger Dryas, the general post-glacial trend toward a warmer and moister climate caused the boreal spruce forest of the Paleo period to be replaced by a forest community closer to that of historic times, dominated by pine (jack, white, and red) alongside hemlock, birch, and some oak. In this setting, the Early Archaic lifestyle developed in direct response to the collapse of the big game, utilizing a new kind of spear point—thinner and with a bifurcated base for attaching to the haft—for hunting deer, turkey, smaller animals, and waterfowl. By the Middle Archaic, oak had gained importance in a mixed forest that now included beech as well, and the acorns, nuts, and seeds of these and other trees provided sustenance both for game and for human foragers, who also sought out a broader selection of roots and berries from the forest understory. Equally important, the Middle Archaic saw the establishment of basically modern patterns of bird migration and fish spawning runs in rivers, allowing hunters to develop their own complex and consistent patterns of seasonal resource use. Population density remained low but increased over the period, as reflected in the number and complexity of archaeological sites.

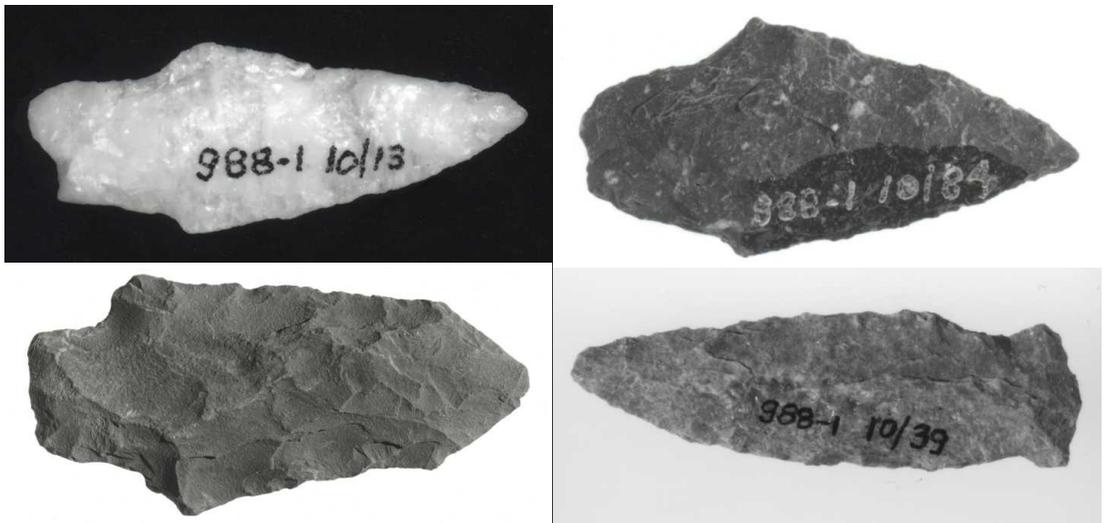
While, again, no Archaic artifacts have been found (or at least recorded) within the boundaries of the BNC, the nearby Arnold Arboretum seems to have been the site of at least one and possibly three camp areas used recurrently during the Middle and Late Archaic periods, from around 5,500 to 3,000 years ago. The most extensive number of finds have been



2.4. Everyday tools such as these from the Arnold Arboretum were used by Native New Englanders for thousands of years: (*top*) scraper, made of felsite; (*middle*) perforator (drill), chert; (*bottom*) knife, felsite. *Images courtesy of the Arnold Arboretum.* © President and Fellows of Harvard College. *Arnold Arboretum Archives, accession numbers 988-1 10/55, 10/40, and 10/48.*

made near Bussey Brook, in areas protected from northwest winds and storms by the elevated land along Centre Street and by Bussey Hill. During the Middle Archaic period, the area seems to have been used only occasionally for hunting camps, but the evidence suggests that by the Late Archaic, it was the site of longer-term (though still probably seasonal) dwelling, as stone flakes and unfinished tools suggest the presence of toolmaking activity. At sites such as this, at the beginning of the Late Archaic, toolmakers developed the first style of spear point indigenous to southern New England—thinner and with a stem, appropriately called the Small Stemmed tradition.

Over the next few thousand years, continued warming and the addition of nut-laden hickory to the oak-pine-beech mix made the southern–New England forest and climate more like those of mid-Southern states today. The abundant animal and plant resources supported an increased human population that included an influx of immigrants from the south and west—those from the mid-Atlantic bringing the Susquehanna tradition of point- and toolmaking, others bringing the Laurentian tradition from New York State, each tradition also associated with certain cultural practices as well. By the end of the Late Archaic, across southern New England and Long Island, these traditions had merged with the indigenous Small Stemmed tradition to form the Orient tradition—and points made in all of these styles have been found at the Arnold Arboretum. While some of these artifacts were made elsewhere and brought here by trade or migration, most were created right beside Bussey



2.5. Late Archaic projectile points found at the Arnold Arboretum: (top) Small Stemmed tradition, made of quartz (left) and felsite (right); (bottom left) Susquehanna, made of argillite; (bottom right) Orient Fishtail (named for the flaring fishtail-like stem), made of felsite. Images courtesy of the Arnold Arboretum. © President and Fellows of Harvard College. Arnold Arboretum Archives, accession numbers 988-1 10/13, 10/84, 10/17, and 10/39.

Brook, using felsite, argillite, or quartz from the immediate area, hornfels from the Blue Hills or quartzite from just west of Boston, or raw materials imported from more-distant lands, especially chert from New York. At this and other sites throughout New England, living in a flourishing environment with diverse and useful plant and animal life, with appropriate technologies and resilient social structures, the population of the Late Archaic period probably surpassed the previous peak attained at the end of the Paleo period—and, again, it's a reasonable assumption that their seasonal rounds of hunting and gathering regularly brought some of them to the site of the BNC.



Once again, however, a changing climate and other pressures brought about social disruption, population loss, and cultural and technological innovation in the transition to a new way of life in what archaeologists call the *Woodland* period, which began about 3,000 years ago and lasted until European contact. With cooling temperatures, the loss of hickory and a decline in oak reduced the availability of nuts—and therefore of the larger game animals as well. Both the worsening climate and the lack of food triggered a shift in population away from the interior and toward the coast and major riverways, where the people lived in more concentrated, long-term (though still probably not year-round) settlements and made more use of shellfish than before. Interestingly, though it's convenient to say that the people moved toward the shore and the shellfish, it's just as true that the shore and the shellfish moved toward the people, as the long-term post-glacial rise of sea levels finally created something like the modern coastline, and the particular configuration of tidal flats and estuaries (along with falling water temperatures) created ideal conditions for an abundance of shellfish. Thus, at that time and place, successful adaptation to climate change took the form of larger, more stable settlements, evidence of which can be found in numerous places along the coast of eastern Massachusetts—including the Neponset River estuary as far upriver as the Dorchester Lower Mills area, just a few miles southeast of the BNC.

A little later, perhaps 2,500 years ago, skills of making ceramic pottery were brought to New England from the south, and pots and baskets were used to store food in pits to provide sustenance throughout the year. Much later—perhaps as recently as 1,000 years ago—another new practice made its mark on southern New England, as the cultivation of corn was slowly integrated into the shellfish-oriented society (though only around the time of European contact, around 400 years ago, would corn become a central part of the New England diet). Both of these developments—pottery and corn cultivation—contributed to the trend toward larger and more stable settlements along the coast. Around the middle of this period, yet

another set of technological innovations arrived from the south and west—the bow and arrow, along with (you guessed it!) new kinds of stone points designed for use as arrowheads—allowing for smaller and more mobile hunting parties to continue their forays into the interior, to sites such as that of the future BNC.

And, as in previous millennia, while on hunting trips these Woodland people probably gathered useful plants as well. The table below lists those plants that are currently found in the BNC and are native to Suffolk County—and hence *may* have been present at the BNC before European contact—and are known to have been used by Native Americans at about the time of contact. That is, many (though probably not all) of these plants would have been both available and desirable to Woodland people passing through the site of the BNC.

### Plants in the BNC Used by Native Americans

*Uses: F = food; M = medicine; R = raw material*

#### *Trees*

Ash, white *M, R*  
 Birch, gray *M, R*  
 Butternut *F, M, R*  
 Cedar, red *M, R*  
 Cherry, black *F, M*  
 Dogwood *M*  
 Elm, white *M, R*  
 Hemlock *M*  
 Hickory, pignut *F*  
 Maple, silver *F*  
 Maple, sugar *F, R*  
 Oak, white *F, M, R*  
 Pine, white *M, R*

#### *Shrubs*

Bayberry *F, M*  
 Elderberry *F, M*  
 Sumac, smooth *F, M*  
 Willow, pussy *R*  
 Witch hazel *M, R*

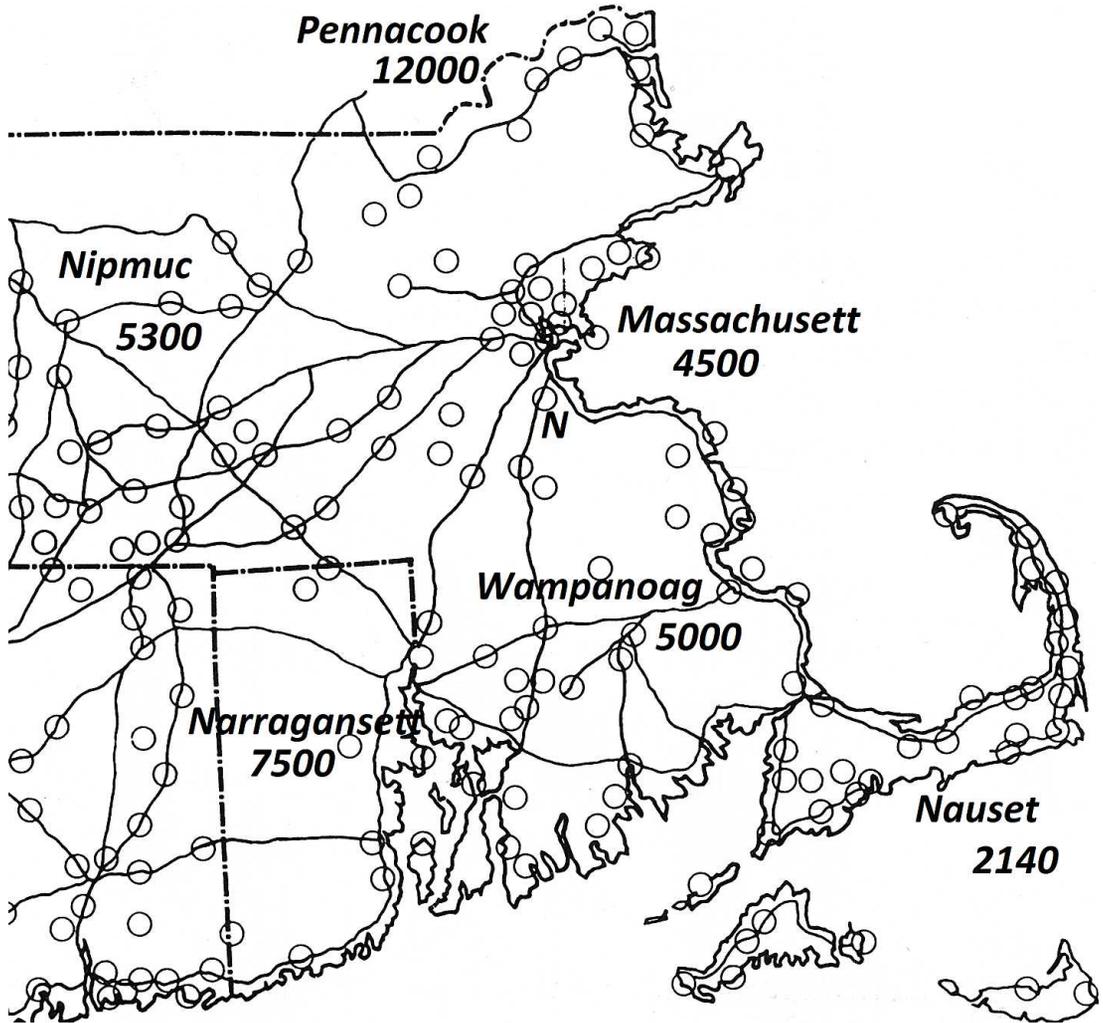
#### *Vines*

Blackberry *F, M*  
 Blueberry *F*  
 Grape, fox *F*  
 Raspberry, black *F*  
 Raspberry, red *F, M*  
 Strawberry *F*

#### *Flowering plants*

Boneset *M*  
 Columbine *M*  
 Milkweed *F, M*  
 Pokeweed *M*  
 Ragweed *M*  
 Skunk cabbage *M*  
 Smartweed *M*  
 Sweet flag *F, M, R*

Along with technological, social, and economic developments such as these, the Woodland period saw the emergence of the tribal systems and cultural traditions that we usually associate with the term "Native New England." At the time of European contact, the Boston area—from the Blue Hills to north of the Charles River—was inhabited by the Massachusetts tribe, whose name means "people of the Great Blue Hill." To the north lived the Pennacooks; to the east, the Nipmucks; and to the south, the Wampanoag, with the Nauset on Cape Cod. Despite their political differences, though, all these tribes spoke virtually the same language, with only minor local differences—a language that usually was called Massachusetts in colonial times but is now more often referred to as Wampanoag, and that is



2.6. This map shows tribes, population estimates, and the distribution of settlement sites and trails in southern New England around 1600—just before contact with Europeans. Most of the settlements of the Massachusetts tribe were located around the Charles and Mystic rivers—one significant exception being the Neponset settlement, indicated here with an "N" (downriver from the much older Paleo-Indian Neponset site mentioned earlier in the text). The future BNC site is in the less-frequented area between the Neponset settlement and the more extensive Charles River settlements. *Adapted from Howard S. Russell, Indian New England before the Mayflower (Hanover, N.H.: University Press of New England, 1980).*

part of the much larger Algonquian family of languages spread from the Plains to the Northeast and into Canada. We know (relatively) a lot about the Massachusetts language because in the mid-1600s, John Eliot, a Puritan minister in Roxbury and Dorchester and a missionary to the local tribes, created a Massachusetts orthography—a system for writing the previously unwritten language using European letters—and then used it to translate the Christian Bible and other religious texts into Massachusetts. The acceptance of Eliot's translations helped establish a relatively high level of literacy among Native converts and others, which would also be expressed (and preserved) in land deeds, court documents, and other writing; on the basis of these documents, a dictionary of contact-era Massachusetts has recently been created. So, journeying through the lands of the BNC 400 years ago, a Massachusetts hunter or forager might have spoken words such as these:

*ohke* - land, earth

*seep* - river

*seepoowees* - brook

*tatakquaskeh* - fresh (wet) meadow

*wossohskeith* - meadow

*mahchagq* - swamp

*touwahkawuk* - wooded land

*mehtukq* - tree, wood

*mishash* - wood, firewood

*meechummuonk* - fruit, vegetal food

*meechu* - he eats

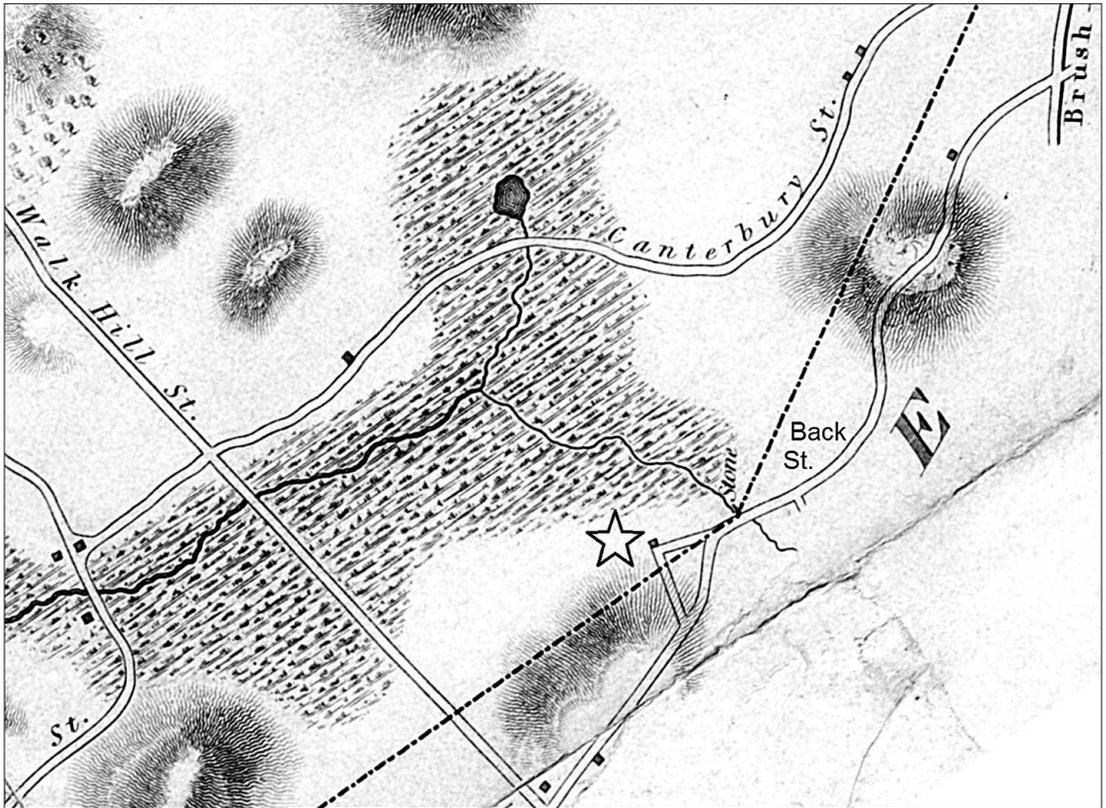


Unfortunately—tragically—the Native peoples of eastern Massachusetts suffered almost incomprehensible losses as a result of contact with Europeans. Beginning around 400 years ago, disease, famine, and warfare decimated the Massachusetts tribe, eliminating them almost completely from the Boston area.

No greater human-caused catastrophe has occurred in our history. It happened here. We should not forget.

For four centuries, only a faint and uncertain memory of the Native presence near the BNC has remained, in bits of stories and the occasional tool found at random. In 1864, for example, local farmer Samuel Whittemore was digging a ditch on the north side of Mount Hope Cemetery—just a few hundred feet from the BNC—when he unearthed a stone chisel, of a kind that could have been made at almost any time since the first Paleo-Indians crossed the land bridge from Siberia. Whittemore gave the chisel to his neighbor William Minot, who brought it to the attention of the Massachusetts Historical Society, who in turn donated it to the new archaeological collection at Harvard University—all of them, in their own ways, fascinated by "the differences or resemblances between the various human races in their earliest stages of existence." Differences or resemblances—from the perspective of Avalonian bedrock, perhaps the technology of a well-made stone chisel isn't as different from the technology of the latest smart phone as we tend to think; both are tools with which a person might survive to see the next season, and might, with luck, forge a sense of continuity and meaning in a world of change, chance, and opportunity. In any case, although nothing in the chisel's make or material tells us who made it, or when, its very existence stands as mute testimony to the 10,000 years of Native life in this part of Boston. We should not forget.

We should not forget, too, that just outside of Boston, the Massachusett have endured. Many of those converted to Christianity by John Eliot and his missionaries were settled in small "praying towns" in Canton (Ponkapoag), Natick, and elsewhere, and their descendants have remained in the area ever since. In the early twenty-first century, some among them are taking steps to revive their language and to reclaim their tribal identity. Like most Native Americans, the Massachusett have endured.



3.1. Portion of an 1832 map of Roxbury by John G. Hales. The dotted line is the boundary between Roxbury (to the west and north) and Dorchester (to the east and south). The homestead of Isaac Williams is indicated by the black square beside the star. Some of Isaac's farmland lay on the Dorchester side of Back (now Harvard) Street, but most of it stretched toward the brook and wetland, where the Boston Nature Center is located today. *Map reproduction courtesy of the Norman B. Leventhal Map Center, Boston Public Library.*

## The House of Isaac

After the coming of the Europeans, the first colonial owner of the land that is now the site of the Boston Nature Center was Robert Williams, who ventured from England to America with his wife Elizabeth (née Stratton) and four children in 1638. Upon arrival in Roxbury—at that time one of many independent towns in the vicinity of Boston—Robert came into possession of twenty-five acres, placing him in the middle ranks among landowners in the town. Another son was born that first year, and two more followed, though the last one died young. The growing family, with domestic help and farmhands, lived in a large house in the town center. Town records of the time seldom mention the family in leadership roles, so we might assume that they were not particularly engaged in community affairs, although they did well economically. Interestingly, the most notable son, Isaac, eventually left Roxbury for Newton, where he became the first of a long line of prominent ministers and theologians.

As the family prospered, Robert increased his land holdings, particularly in the sparsely inhabited region to the south and west of the town center that was already referred to as the Canterbury section—an area that now includes much of Franklin Park, Forest Hills Cemetery, and the BNC. In general, the land in Canterbury—open fields, woods, and marshlands—was not used by colonials for crops but rather visited occasionally, depending on the season, for various necessities such as pasture, timber, and marsh hay, as well as for hunting. In this, they followed the pattern of the Native Americans, and indeed the colonists regularly made use of Native trails to make their way through the land.

At Robert's death in 1693, his youngest son, Stephen, inherited the family homestead and farm, while the eldest son, Samuel, received various tracts farther away—including “ten acres of wood-land, more or less, at Walk-hill,” a piece of land that may have been located at the site of the present Boston Nature Center. However, the subsequent maze of marriages, intermarriages, inheritances, and land dealings make it difficult, if not impossible, to trace the

history of any particular parcel in this area. Not until the fifth generation, in the latter part of the eighteenth century, can we identify a particular family who actually lived on the land of the present BNC, that of Isaac and Elizabeth Williams.

Isaac Williams was born on June 10, 1744, the fourth son of Henry and Mary (née Payson). His older brothers all died young, so while he was still a child Isaac was catapulted into the role of elder brother to the two later sons in the family. One can only imagine the weight of the dual responsibility that Isaac probably felt, both to his living brothers and to the memory of the dead. As he came to adulthood, Isaac also stepped into the role of eldest son in the context of the larger family, working alongside his father, Henry, in practical and business matters. Moreover, in an act of historical significance, both Isaac and Henry were among the thirteen signers of the 1770 petition calling for a new church in Jamaica Plain to serve the expanding population of the area, and both Williamses were among the founding members when the church was established in 1772.

Although historical evidence is slim, it seems likely that by this time Isaac had moved to a homestead on Back Street (now Harvard Street) and was farming land that included part of the present BNC. In 1767 Isaac had married Elizabeth Davis of Roxbury, and their first child, Mary, was born in 1768; their second, Elizabeth, was born in 1772, and so was among the first children baptized in the new church in Jamaica Plain. A third daughter, Abigail, was born in 1774 and also was baptized in Jamaica Plain.

The next year, however, the life of the growing family was interrupted by winds of change from the outside world when Isaac became a soldier in the American Revolution. Reflecting his status within the community, he was made a lieutenant in Captain Lemuel Child's Third Roxbury Company, which marched in response to the Battle of Lexington and Concord on April 19, 1775. He was discharged—along with the whole company—after only 15 days, but was called for additional service as a first lieutenant the following spring.

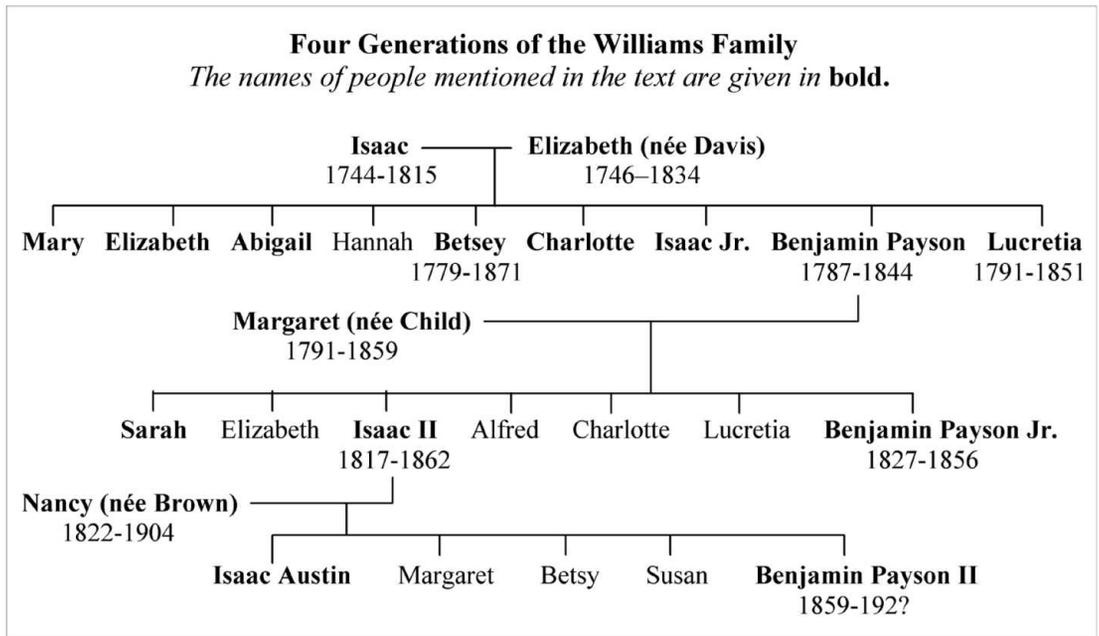
Having left the farm as an English colonist, Isaac returned as an American. It is hard to say what that change meant to him. Had the crucible of war made him into a “new man,” a citizen of a new nation that he had helped bring into being? Or was he just happy to return to his old homeland, to his family, and to the church that he had helped to found? In any case, to the end of his life he was respectfully referred to both as “Lieutenant” and as “Deacon,” reflecting his prominence in both civic and religious spheres. As for the home front, we can only speculate on what the turmoil of war and the return of peace meant to Elizabeth and to the children.

Whatever the swirl of emotions within and around them, Isaac and family soon settled back into life on the farm. Six more children followed over the next fifteen years, though of nine total births only five survived to adulthood: Mary, Betsey, Charlotte, Benjamin Payson, and Lucretia. We might wonder whether the death of Isaac's first son—also named Isaac—awoke any of his feelings at the death of his own brothers in childhood, or if he ever

shared any of those feelings with the second son, Benjamin Payson. In any case, the love and pride that he felt toward his surviving son appears in the unlikely and legalistic context of a land transaction in 1810:

I, Isaac Williams of Roxbury, in the County of Norfolk and the Commonwealth of Massachusetts, Gentleman, in consideration of the natural love and affection which I have to bear to my beloved son Benjamin Payson Williams of said Roxbury, Gentleman...do give, grant, and confirm unto my said son and to his heirs the following two pieces or parcels of land...

In a regular land sale, the “consideration” would have been expressed in terms of dollars and cents; here, though, love and affection were Isaac’s real currency, his “legal tender.”

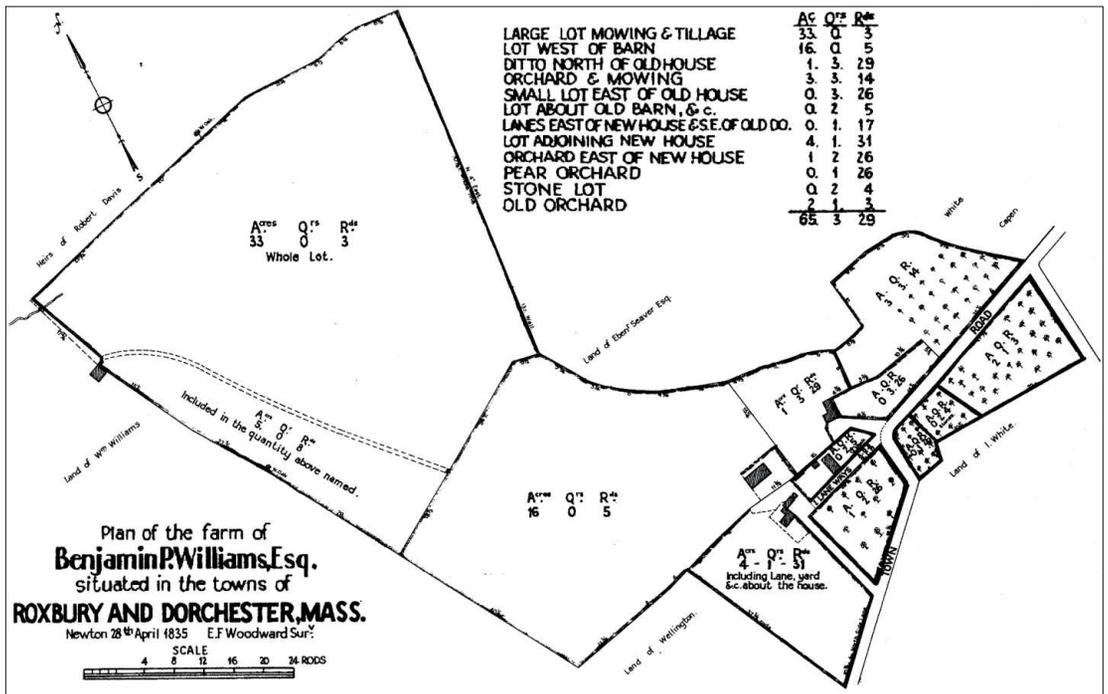


Upon his father’s death in 1781, Isaac took the lead in managing the estate and in caring for his widowed mother. As Isaac’s own family grew, he expanded the estate as well, acquiring more land both near the homestead and farther afield, including pasture and woodlands to the south and west (as far as the present Stony Brook Reservation) and small pieces of salt marsh in Dorchester. At its peak, the Williams estate included 125 acres, at an estimated worth of \$8,401. Along with a full array of various types of wagons, harnesses, plows, tools, casks, a tree rooting machine, and other farming equipment, Isaac owned fifteen

cows and one bull, three horses, three pigs, and two yoke of oxen. The farm produced hay, milk, corn, barley, potatoes, onions, vegetables, apples, and pears—some of the latter two crops being made into cider. Much of this produce would have been for home consumption, though a portion of the hay and milk would have been sold for cash in the expanding towns.

The home, too, reflected their prosperity: a genteel front room with mahogany and walnut tables, an eight-day clock, brass fire utensils, carpeting, and a “looking-glass” (i.e. a mirror); three bedrooms with a total of four beds and bedding, along with chests of drawers, chairs, washstands, carpeting, and another looking-glass; a dining room with three tables, numerous chairs, candlesticks, and yet another looking-glass; and full equipment for both an indoor and an outdoor kitchen. Though not considered rich, Isaac and Elizabeth had made a comfortable place in the world for themselves and their children, and were certainly wealthy in family, in experience, and in the respect and admiration of their community.

Isaac Williams died on February 5, 1815, at age 71, of what his death notice calls “decay of nature”—i.e., a natural death of old age.



3.2. 1835 plan of the farm that Isaac Williams left to his son Benjamin Payson, stretching from the Town Road (i.e. Back, now Harvard Street) on the right to Canterbury Brook on the left. The large lot of "mowing and tillage" land on the left—including most of the central part of the BNC today—was actually owned by Benjamin's sisters Betsey and Lucretia, but the farm was operated as a whole, as it was in Isaac's day. *Plan courtesy of the Norfolk County Registry of Deeds.*



After Isaac's passing, it was only natural, in that day and age, for his "beloved son," Benjamin Payson Williams, to take over the role of head of the family. Indeed, Benjamin probably had taken over much of the work of the farm some years before, as his father aged. When Benjamin married Margaret Child, also of Roxbury, in 1814, the couple lived in a new house just yards away from the family homestead, where they began their own family with the birth of daughter Sarah that same year. Six more children followed in the next thirteen years, all but one of whom survived to adulthood, as the homestead was filled with a growing family once more.

At the same time, Isaac's estate and Benjamin's benevolence provided for the extended family as well. Isaac's widow, Elizabeth, continued to live in the homestead until her death in 1834, at the advanced age of 88. Benjamin's unmarried sisters, Betsey and Lucretia, too, continued to live in the homestead, received their own inheritances of money and significant ownership rights in the land, and generally remained important members of the family and the community. In 1829, for example, Lucretia became Superintendent of the first Sunday School at the church in Jamaica Plain, a role she filled for years.

In other ways, too, Benjamin's life largely moved along tracks that his father had laid down. As a farmer, he added no new land to his father's estate, but tended his fields well; he kept abreast of new trends in agriculture, and one contemporary praised him as "a very intelligent practical farmer." As the son of Lieutenant Isaac, Benjamin joined the Massachusetts militia, advancing to the rank of major (without seeing action). Of course, he was a pillar of the church in Jamaica Plain.

One might wonder how Benjamin felt, living in the long shadow of his father. Isaac had literally created the world that Benjamin lived in—had built the farm that fed him, had founded the church that he prayed in, had helped in the creation of the very nation whose laws protected him. Did Benjamin ever feel trapped by that world, ever want to break free and become "his own man"?

In fact, even as he accepted the responsibilities for family and farm that descended to him from his father, Benjamin found ways to carve out his own identity. The arena in which he most distinguished himself was politics. In 1828, he was elected to the Massachusetts House of Representatives; in 1836, he was selected as a delegate to the state Democratic convention, committed to presidential candidate Martin Van Buren (though in the end the state went for favorite son Daniel Webster); and in 1843, he was appointed an Inspector of the state prison in Charlestown, at the time the only correctional facility in the state.

In 1832, Benjamin was asked to address the community at the opening of a new

schoolhouse on Eliot Street in Jamaica Plain (the building of the current Eliot School). His remarks reveal the combination of allegiance to the old and openness to the new that characterized him throughout his life. On the one hand, his reverence for past generations and for traditional piety and morals runs throughout his address, from his opening appreciation of “the fixed determination and untiring zeal of our ancestors” that paved the way for the building of the schoolhouse to his final injunctions to the young students to always obey their parents.

“Honor thy father and thy mother”... My young friends, this is one of the most important duties you have to perform. It is the very basis of virtue, and happiness. If you neglect it, it is morally certain you will be miserable; for I conceive it to be impossible for any youth who is in the daily and hourly habit of disobedience to parents to be otherwise than miserable. You must also obey the commands and directions of your teacher...

On the other hand, Benjamin’s address shows a progressive and forward-looking side as well. In discussing the need for education, he recounts some of the recent breakthroughs in science and technology, and quotes thinkers such as John Locke and Francis Bacon extolling the benefits of modern scientific knowledge in terms both of practical achievements and of banishing fears born of superstition.

Knowledge, then, is power. It is a power to discover and visit distant countries; to navigate the stormy ocean and the ethereal air; to erect houses and form gardens; to make rail roads and locomotive engines; to build ships and steam boats; to predict eclipses and occultations; to calculate with unerring certainty the revolutions of those mighty planets which form our solar system; it has described the orbits of several of the comets which have been seen from our earth, and it has caused these eccentric visitors to be viewed, not with fear and trembling, as the harbingers of war, pestilence, and famine, but with gratitude and love and admiration, as a component part of that stupendous whole, which no human mind can comprehend or human knowledge explain.

As that final note of humility suggests, Benjamin viewed science and practical technology not as ends in themselves but as avenues toward a deeper spirituality.

Let us be careful to avoid extremes. Calculation should be the laborer of genius—the servant, not the master of the soul; when it becomes the master it destroys every noble, generous and lofty feeling, and deadens all those qualities that assimilate man to his Maker. My friends, would you envy that man who in yon beautiful sheet of

water [Jamaica Pond] sees nothing but a reservoir of an aqueduct? Who can discern nothing in the mighty river but a mill site? Who beholds nothing in the stupendous precipice and granite rocks but materials for the architect?

In the end, he reminds the young students, the ultimate benefit of education is to improve one's soul, and so it is "a high privilege, as well as a great duty—a duty which you owe to yourselves, to your parents, to society, to your country, and to your God."

On Sunday, September 15, 1844, Benjamin Payson Williams seemed in good health as he went with his family to church in the morning, as usual. After a normal day at home, he went back to Jamaica Plain in the evening to be part of the "singing society," which he heartily enjoyed, after which he walked home again. He probably went from the church down South Street, then over on the Dedham Turnpike (now Washington Street) to Walk Hill Street, then down past what is now Forest Hills Cemetery to Canterbury Street, and up a few yards to where a path crossed a neighbor's land on its way to the Williams homestead—a route he had walked all his life. Perhaps he greeted some people he knew, or maybe some he didn't know; or maybe he just breathed the autumn air alone. After he arrived home, he went out again to check that the barn and other buildings were closed for the night, to see that everything was in order on the land where he had lived all his life.

A few hours later, Benjamin Payson Williams was found lying upon the ground, dead of heart failure at age 56.



**T**he passing of Benjamin must have rent a hole in the heart of the family. Over the next dozen years, they struggled to recover, to make the family whole again.

Most immediately, Margaret—with the help of family friends such as neighbor Joel Seaverns—served as executor of her husband's estate, arriving at a complex division of land and personal property among herself, her five surviving children, and sisters-in-law Betsey and Lucretia. In fact, the division was more on paper than in reality, as everyone who was living on the farm continued to do so, striving together to make things work. The eldest son, Isaac II, stepped up to the role of farmer and head of household, and he soon brought new life to the family through his marriage to Nancy L. Brown, from Peterborough, New Hampshire. In 1849, Isaac and Nancy had a son, Isaac Austin Williams, and more children followed.

However, in the next few years, something must have changed—perhaps Isaac II felt trapped by the old family roles, perhaps tensions arose from some other quarter, perhaps the new and growing family just needed room of its own. In any case, the 1855 Massachusetts

state census shows that Isaac and Nancy had moved away from the homestead, living with their four children in Dorchester, with Isaac's occupation listed as mechanic rather than farmer. Lucretia, too, was gone, having died of tuberculosis in 1851. Margaret and the others remained in the homestead, working the farm with a few more hired hands than before.

Another son, Benjamin Payson Junior, was equally central to the family's hopes, but on a different trajectory. Born in 1827, Benjamin Jr. was only 17 at the time of his father's death, and so Joel Seaverns was made his legal guardian until he came of age. Perhaps with the help and encouragement of Seaverns, Benjamin Jr. entered Harvard at age 19, where he seems to have done well both in and out of the classroom. Later, a classmate painted an admirable portrait.

He was endeared to all his associates by his open and generous disposition, his rare social qualities, and his genial and affectionate nature. Of an unusually strong and powerful frame, he was foremost in athletic sports, into which he entered with great zest. In the various literary and social clubs which make so prominent a feature in college life, he was particularly conspicuous; his ready wit, his overflowing humor, and his lively and poetic fancy making him one of the most valued members.

After graduation, he studied law, was admitted to the bar in Suffolk County, and began a career as a respectable lawyer in Boston. At the same time, he followed his father by taking an active interest in politics, "his opinions being those of the old-line democracy." On both personal and practical levels, Benjamin Jr. seemed poised to fill the gap left by his father's death and to help his family regroup and move forward once more.

Fate, however, was once again cruel to the Williams family. On May 17, 1856, at age 29, Benjamin Payson Williams Jr. died of tuberculosis. This seems to have been the last straw for the family, for the following year they sold the homestead to Bishop John Fitzpatrick of Boston and moved away—Margaret to Brookline, others to Dorchester or perhaps elsewhere. Margaret died in 1859 of lung congestion, at age 68. A few years later, at the outbreak of the Civil War, her son Isaac II—perhaps with stories of his grandfather, Lieutenant Isaac, in his mind—enlisted in the Union Army in May, 1861, at age 43. Sergeant Isaac Williams II was killed on June 30, 1862, at Nelson's Farm, Virginia, in the Battle of Glendale.

For the rest of the 1860s, Isaac's widow Nancy and her children lived in Dorchester, with Aunt Betsey in the household as well. For a while, they were able to maintain ownership of one last piece of the old farm, the thirty-three-acre lot of "mowing and tillage land" between the homestead and Canterbury Street—a parcel that included much of the central part of the present-day BNC. When Betsey died in 1871, at age 91, Nancy and the remaining relatives sold that final parcel of Williams land to Forest Hills Cemetery, which stripped the topsoil for use in landscaping and for covering graves in the cemetery.



Even then, the family's long connection to the land may not yet have been completely severed. In 1859, after the homestead had been sold, Isaac II and Nancy had another son, Benjamin Payson Williams II. Although this youngest Benjamin never lived on the old homestead and farm, he must have heard stories of it throughout his childhood—from his father and mother, from other relatives and family friends, perhaps especially from his Great-Aunt Betsey, who lived with Nancy and the children for some time during Benjamin II's adolescence.

He must have learned of old Deacon Isaac and Elizabeth, and of his two namesakes—Benjamin Senior, farmer and politician, and Benjamin Junior, the Harvard athlete and Boston lawyer. In any case, we know that by the time he was sixteen, in 1875, Benjamin Payson Williams II was living on Norfolk Street, near Walk Hill Street, and working as a clerk at Mount Hope Cemetery, not far from the old family homestead. Perhaps working at a cemetery made him think much of the past, of those who had gone before him. Perhaps, as he went to or from work, up and down Walk Hill Street, he sometimes would take a few steps up Harvard Street to gaze at the old homestead, and to think of his family's long life on that land.

Benjamin Payson Williams II worked at Mount Hope Cemetery until at least 1885, after which he left the area.



4.1. Portion of 1843 map of Roxbury by C. H. Whitney. The star indicates the homestead built by Elijah and Elizabeth Weld, whose farm reached up the gentle slope of Wellington Hill to the Roxbury-Dorchester line. *Map reproduction courtesy of the Norman B. Leventhal Map Center, Boston Public Library.*

## Elizabeth on the Land

Elizabeth Cotterell was born in Boston in May 1760, the fifth of six children of Edward and Elizabeth Cotterell. Both of her parents were themselves born in Boston and were married at King’s Chapel, whose records note each child’s baptism under the sponsorship of friends and relatives—all of which suggests a life of stability and community ties. The family’s life was not without hardship, however, since two of the children died before age 10—a not uncommon occurrence in those days.

As Elizabeth grew older, their lives must have been further disrupted by the outbreak of the American Revolution and the siege of Boston by British troops, during which some or all of the family may have fled Boston for the safety of the outlying towns. In any case, the next information we have about Elizabeth comes from Roxbury, where, on October 17, 1782, she married Elijah Weld.

The Welds—like the Williamses—were among the oldest families of Roxbury, as Thomas and Joseph Weld appeared on the list of the largest landowners in the town in 1639. Elijah’s father, Joseph, was born in 1715 to one of the more middling branches of the family, and in 1748 married Patience Child of Connecticut. Elijah was born on August 24, 1754. He may never have left his hometown until the early days of the American Revolution, when, in April 1775, he was part of the famous Battle of Lexington and Concord as a private (under Lieutenant Isaac Williams) in Captain Lemuel Child’s Third Roxbury Company. In June of the following year, he saw further action in Nantasket, as part of an effort to turn back British ships attempting to bring supplies to the soldiers besieging Boston.

After finishing his service, Elijah was discharged in Cambridge and seems to have stayed there for a while. It may have been in Cambridge that he met Elizabeth Cotterell, herself seeking safety outside of her besieged hometown. In any case, upon their marriage in 1782 they returned to Roxbury, where they settled into the life of farmers on Weld family land. They became members of the First Church in Roxbury in 1783 and had their first child,

Elijah Jr., the ensuing year; two more sons followed, Thomas McCarthy in 1785 and Joseph in 1792. Aside from family life, Elijah seems to have kept something of an adventurous streak, for in 1784 he also became part of the first fire engine crew in Roxbury—an occupation not without hazard.

Then, in 1796, Elijah and Elizabeth sold their property in Roxbury Center to start a new life, purchasing thirty-four acres of land lying between Isaac Williams's farm and Walk Hill Street—including land that would become the western end of the Boston Nature Center. Here, near Canterbury Brook (with an access road to Canterbury Street), they built a modest two-bedroom house, comfortably but not elaborately furnished, for they were nowhere near as well off as their more prominent neighbors. In the 1798 Massachusetts tax records, Elijah's house was valued at \$275, about half as much as Isaac's, and he owned about half as much land as did Isaac.

Later, an inventory of the family's possessions in 1805 (at Elijah's death) gives a poignant window onto their lives: nine pewter plates, four dishes, one looking glass, six chairs... The six silver teaspoons were surely a treasured family heirloom. The farming equipment was equally modest, sometimes primitive: one iron bar, three dung forks, one stone hammer, and other implements, along with the necessary carts, wagons, and plows. The Welds had nothing like the Williamses' \$75 shay or riding carriage, a sure sign of status. Farm animals included a pair of oxen, five cows, and one horse, while crops included hay, barley, Indian corn, potatoes, and onions, as well as a range of garden vegetables—most of which were for their own consumption, except, obviously, for the hay, some of which would have been sold to livery stables in Roxbury or Boston since hay was a major cash crop in the days when literal horsepower was the sole means of transportation. Along with Elijah, Elizabeth, and the children, the 1800 census lists one additional female over 45 as living with them, probably a relative or boarder rather than a servant. As a working farmer, with no holdings beyond his own farm and home, Elijah had attained the status of solid, respectable yeoman.

The stability was short-lived, however. Sometime before 1800, Elijah Jr. left home to pursue the occupation of painter, probably living in the household of his uncle Benjamin Weld, himself a painter before becoming a successful merchant. At that time, "painter" did not necessarily mean "artist" but rather a practical painter of houses, signs, and so forth—which was still a skilled occupation since one had to know how to find, prepare, and mix pigments and mediums in the days before store-bought paints.

Then, in 1805, a much bigger shock took place, as Elijah Weld Sr. died suddenly of tuberculosis—the fate of so many of the Williams family. In the aftermath of the tragedy, the family tried to regroup, with Elijah Jr. and uncle Benjamin Weld serving as administrators of Elijah Sr.'s estate, and another uncle, Thomas, taking over legal guardianship of the minor sons, Thomas McCarthy and Joseph. Unfortunately, Elijah Sr.'s debts were substantial, and so Benjamin and Thomas (as well as their sister Lucy) must have given or loaned the family

money in order to put their finances in order. By 1810, the census listed Thomas McCarthy Weld, then aged 25, as head of family, with Elizabeth and Joseph making up the rest of the household.

The following year, tragically, Elijah Jr. too died, this time of “bilious fever.” He had had enough success in his painting business to leave some wealth to the family, and again uncles Benjamin and Thomas Weld were there to help out, but the strain on Elizabeth must have been great. Sadly, the documents recording Elijah Jr.’s estate note that, in the confusion, someone had absconded with Elijah Sr.’s artillery uniform, taking away yet another link to a happier past. And the tragedies kept coming: in 1818, Thomas McCarthy Weld, aged 33, died of tuberculosis, like his father. The 1820 census shows Joseph and Elizabeth with a male farmhand, struggling to make it; but in 1822 Joseph, age 30, died of “intemperance”—he drank himself to death.

So far, few records allow us to speculate on what Elizabeth thought and felt in all of this, but her actions in the following years reveal her as a survivor, attached to the land. The same year as her last son Joseph’s death, Elizabeth chose to marry again, to start another new life. Her new husband, William Williams—from a different branch of that family than Isaac’s—was, like Elijah, a yeoman farmer from Roxbury.

Intriguingly, the annals of the Revolutionary War list a William Williams from Roxbury who served alongside Elijah Weld in the effort to drive British ships from Boston Harbor in the summer of 1776, and the records of First Church in Roxbury show a William Williams Jr. as becoming a member of the church in 1784, the year after Elijah and Elizabeth became members. However, since there were at least two William Williams Juniors in Roxbury at the time, it’s impossible to be certain as to which of these Williams were one and the same. Even without such direct parallels, given the closeness of small-town life, it seems likely that Elijah and Elizabeth knew William as they settled in Roxbury after the war. In 1782, William married Sarah Crosby of Dorchester, with whom he farmed and had six children until she died of tuberculosis in 1804 (just a year before Elijah’s death), after which at least two of the children moved as far away as New Hampshire and New York.

Although we have no way of telling how Elizabeth and William felt toward each other, their shared life experiences probably made their marriage a practical match, as William moved into Elizabeth’s house and began farming the land (with the help of one farmhand, according to the 1830 census). At the same time, there may have been some tensions between them: a curious deed of sale suggests that in 1827 William tried to sell the land to a son-in-law living in Boston, with no sign that Elizabeth was part of the transaction. Since as wife she still retained some rights in their property, such a sale would probably have been illegal, and in any case the sale seems not to have gone through.

Moreover, Elizabeth seems to have had a troubled relationship with William’s children, perhaps for good reason. When William died of “dysentery and old age” in 1838, his

scattered children reappeared only to claim their cash inheritance, forcing the sale of land and property that had come to their family only through Elizabeth. Her attitude toward her step-children is subtly expressed in her will, drafted in 1844, in which she makes no mention of any of them except for the oldest daughter, Sally, the only one who had stayed in Roxbury and had been with Elizabeth and William as they aged. Elizabeth's generosity comes through in her leaving a small sum, \$5, to Sally and to each of her children.

By contrast, the will suggests that Elizabeth's real heart and gratitude lay with her first husband's family, the Welds. After another \$5 bequest to a nephew Benjamin Cotterell, who lived in New York, Elizabeth left \$200 to Elijah's sister Lucy (whether as gift or as loan repayment is not clear), \$15 to each of the children of Elijah's late brother Joseph, and \$5 to each of the children of Elijah's late brother Thomas. After a small gift to Mrs. Susan Houghton, her nurse in old age, Elizabeth left the residue of her estate to her two grand-nephews and one grand-niece on the Weld side, amounting to around \$675 each. Such bequests make clear that she felt gratitude and affection to those who were bound to her by the threads of the past, those who had helped her and her family through hard times and who brightened her life in old age.

Along with Elizabeth's will, the inventory of her possessions taken at the time of her death in 1849 suggests that her economic situation had improved slightly since her marriage to William. Instead of the six chairs that she and Elijah had owned, she now had thirteen; she now had \$2.50 worth of jewelry and \$15.75 of silverware, along with a few other modest luxuries. Perhaps she valued stability more than anything, after the storms of her earlier life.

However, an action taken eleven years before her death makes clear that Elizabeth's real wealth lay in her connection to the land. After William's death, when the house and land were sold to William Cheever of Boston, Elizabeth inserted a powerful and poignant condition into the deed of sale, "Reserving to myself for and during my natural life, the front chamber and bedroom and the right in the back room to do my work...and I am to be furnished with vegetables suitable for myself from the farm during my natural life." The clause was repeated when Cheever sold the property to Joseph Lambert in 1844. Facing the rest of her life alone, Elizabeth chose to stay in the same place, on the same land, for as long as she could.

After all that she had been through in that place, she would not leave it; she could not break the ties to the past that existed only in that place. By "her work" she probably meant spinning and weaving, since two spinning wheels and a loom were among the possessions listed at the time of Elijah's death. So we may imagine Elizabeth at the end, in her room overlooking the garden—the garden that had fed herself and her family in years past and that now fed herself and another family—steadfastly working her wheel and loom, her ears filled with the familiar sounds of horses on the road or the murmur of Canterbury Brook.

Elizabeth Cotterell Weld Williams died on February 7, 1849, at 88 years of age.

## A Pilgrim in Canterbury

**I**n 1823—the year after Elizabeth Weld married William Williams, and just over a mile north—a young man from Boston ventured a few miles outside of the city limits to take a position teaching school in the hilly part of Canterbury.

The young teacher, who had just graduated from Harvard at age 20, lived on a hilltop in what is now Franklin Park. When he wasn't teaching, he had more time and solitude than ever before in his life, and he used it to take long walks through the whole area—to lose himself in the nearby stands of cedars, to climb the rocky outcroppings that dotted the land, and to notice the changing lights of day and night. On some of these walks, he must have followed Canterbury Brook as it flowed past his hill on its way to Stony Brook, leading him to the region of dense woods and tangled wetlands that is now the Boston Nature Center and Wildlife Sanctuary.

When he got back home, he often wrote about his experiences in letters and in his journal. Although his aunt had encouraged him to spend time in the country, at first the city boy just felt out of place in the wilds of Canterbury. In a letter to a college friend, he wrote: “I confess I cannot find myself quite as perfectly at home on the rock and in the wood as my...aspirations had led me to expect.... When I took my book...to the woods, I found Nature not half poetical, not half visionary, enough.”

The more time the young man spent in the country, though, the more comfortable he felt, and “a pair of moonlight evenings have screwed up my esteem several pegs higher, by supplying my brain with several bright fragments of thought, and making me dream that mind as well as body respired more freely here.” And in the months that followed, those dreams grew stronger and more real, as the young man settled more deeply into his new life in Canterbury.

I'm going to my own hearthstone,  
 Bosomed in yon green hills alone;  
 Sweet summer birds are warbling there.

He had spent some time in the area as a young child, and so his walks were infused with a feeling of coming home, of renewing an intimacy with a new yet familiar world.

Ye are my home, ye ancient rocks,  
Who lift 'mid cedar shades your rugged crest...

...

Ye were the cradle of mine infancy,  
The playground of my youth.

Yet the young man was no longer a child, and the hills and woods were more than cradle and playground, but a setting for more mature thoughts and actions: “I never saw a country which more delighted me. A man might travel many hundred miles and not find so fine woodlands as abound in this neighborhood.... And many a sultry afternoon, last summer, I left my Latin and my English to go with my gun and see the rabbits and squirrels and robins in the woods.”

What he found there—“stretched beneath the pines, / where the evening star so holy shines”—moved him deeply.

In the depths of the forest, where the noon comes like twilight ... where the sound of man's mirth and of man's sorrow were never heard, where the squirrel inhabits and the voice of the bird echoes,—is a shrine which few visit in vain, an oracle which returns no ambiguous response. The pilgrim who retires hither...has come to a sweeter and more desirable creation. When his eye reaches upward by the sides of the piled rocks to the grassy summit, he feels that the magnificence of man is quelled and subdued here. The very leaf under his foot, the little flowers that embroider his path, outdo the art and outshine the glory of man. ... Things here assume their natural proportions, before distorted by prejudice. What, in this solitude, are the libraries of learning? The scholar and the peasant are alike in the view which Nature takes of them. The barriers of artificial distinction are broken down. Society's iron scepter of ceremony is dishonored here,—here in the footsteps of the invisible, in the bright ruins of the original creation, over which the morning stars sang together, and where, even now, they shed their sweetest light.

In the years that followed, his struggle to understand and to express the insights that first came to him on his youthful walks in Canterbury—in the hills, woods, and waters of what are now Franklin Park and the Boston Nature Center—would change American culture forever; for the young schoolmaster's name was Ralph Waldo Emerson.

## From Farm to Market

The early residents of the land that would become the Boston Nature Center were born at most a few miles away, in Roxbury or Dorchester. By and large, they settled on land near their families, worked farms that they or their parents owned, and lived there a long time, never expecting to move very far from the place. Over the course of the nineteenth century, though, as people moved around like never before—both within the United States and across the globe—new faces came to Canterbury.

These new residents came from increasingly farther away—first from Boston, then from northern New England, then as distant as Europe; and after they got here, some of them didn't stay in one place very long. Most were still farmers, but they didn't always own the land they farmed, or farm the land they owned, and more and more they raised crops and animals not for their own consumption but to sell to other people, to the many hungry mouths of the modern, industrial city that was growing around them. In other ways, though, they shared many of the values of the old-timers, the Williamses, the Welds, and others: they worked hard, they cared about their families, and they tried to treat each other and the soil as best they knew.

In this chapter, we'll meet some of these newer residents—first on Elijah and Elizabeth Weld's old farm on Walk Hill Street, and then on the Williams homestead.

As noted previously, after her second husband William died in 1838, Elizabeth sold the thirty-four-acre Walk Hill farm for \$2,800 to William Cheever of Boston, with the stipulation that she continue to live there for the rest of her life. In 1844, after only six years, Cheever sold the farm for \$5,500—almost twice what he paid for it, reminding us that there were real estate booms in the nineteenth century as well as at the beginning of the twenty-first!

The new owners of the farm, Joseph and Ann Lambert, had married in Dorchester that same year, though neither of them had been born there: Ann (née Hollis) was born in Boston in 1810, while Joseph was from the small town of Readfield, in Kennebec County, Maine. It

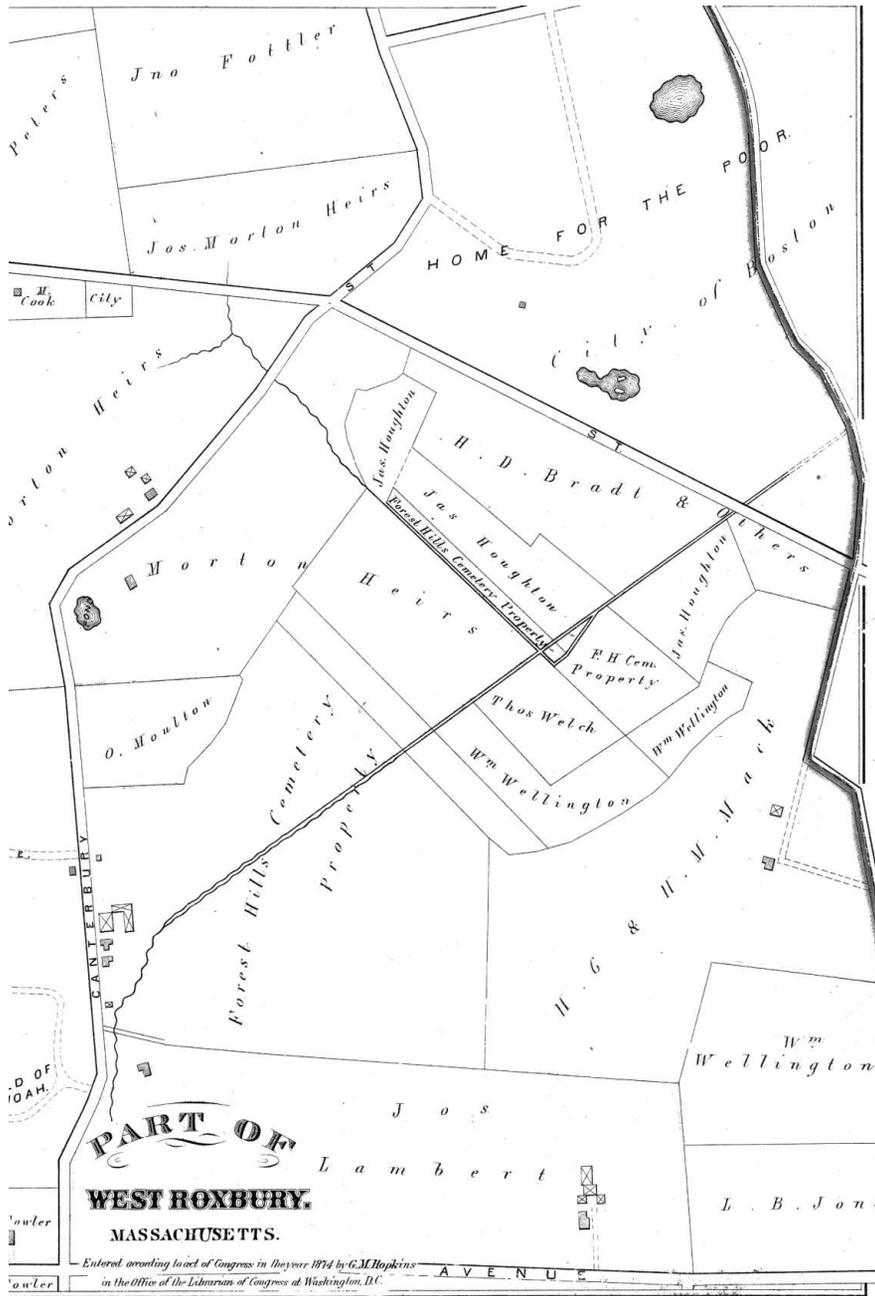
is interesting to note that when Joseph was born in 1804, Maine was a territory of Massachusetts (only becoming independent in 1820), and the strong social and economic connections between the two regions continued through the rest of the century, and even to this day. Indeed, the 1850 census shows two other people from Maine living and working on the farm with Joseph and Ann—Salmon Smith, then age 30 and also from Readfield, and Charles Bassett, only 10 (town of origin unknown).

Given their shared Maine roots and Charles's young age, it's likely that their being on the farm wasn't just happenstance but had been arranged beforehand between Joseph and their respective parents. Thus, we should understand them to be not merely hired help but young people for whom Joseph and Ann felt a sense of personal responsibility and kinship, in some ways regarding them as part of the family (perhaps especially since the couple had no children of their own). By 1860, Salmon was back in Readfield on his own farm, and the Lamberts and Charles shared the house with two other young male workers—Israel Chesley from Maine and William Baker from Massachusetts—along with Eliza Adams, a domestic servant, again from Maine.

Although we don't know much more than that about Joseph and Ann's private life, federal census statistics give a window to their agricultural operation. In 1860, the Lambert's thirty-four acres of improved land, along with buildings and equipment, constituted a farm worth \$10,000, placing it in the upper third or so in monetary worth among farms in West Roxbury. In terms of annual productivity and cash income, however, the Lamberts were near the very top, outperforming other farms of greater size and value (most of which included large tracts of less-productive land such as forests or marshes).

For example, while most other farms in the area had only one or two pigs for home consumption, the Lamberts kept a herd of forty swine, clearly intended for sale at market. Other major products were potatoes and honey, the latter almost unique among area farmers. (Interestingly, the BNC's own beehives today are located on the land of the former Lambert farm.) Most notably, the Lamberts were among the leaders in the area in the value of their market garden, i.e., mixed vegetables and possibly flowers intended for sale in local markets—\$1,000, a significant income in those days. Rounding out the farm life were some of the old familiar necessities—two horses, a milk cow, and some corn, peas, beans, and hay, all for use on the farm (by either humans or animals).

Ten years later, in 1870, the value of the farm had risen to \$17,000, and production was even more specialized. Gone were the pigs and honey, while the value of the produce of the market garden had almost quadrupled since 1860, to \$3,800—again representing much higher productivity than other farms in the area. Interestingly, in the 1870 census only one worker, Charles Bassett, was listed as living in the house with Joseph and Ann, but the expense for wages was higher than for most other farms in the area—suggesting that they were then hiring day laborers who lived in their own off-site lodgings rather than in the



6.1. Portion of 1874 Atlas of West Roxbury by G. M. Hopkins, showing land parcels owned by Joseph Lambert (at bottom, off Walk Hill Street), the Macks (on right), Forest Hills Cemetery (middle), John Fottler (top left), and others. Map reproduction courtesy of the Suffolk County Registry of Deeds.

house, family-style, as Salmon Smith and the others had done earlier. Clearly, by this time the Lamberts conceived of farming in modern terms, as a cash activity rather than primarily for home consumption as Elijah and Elizabeth—and countless generations before them—had done.

By 1874, Joseph and Ann Lambert had fared well enough economically that they could buy a house closer to town and rent the farm to a tenant. Thus, the town directory shows them as living on South Street in Jamaica Plain, near the Monument, while two brothers, George and Stedman Fottler, lived on the Walk Hill farm. Interestingly, although both are listed as farmers, Stedman is listed as “boarding” there, suggesting that he might have been working as a day laborer on some other property nearby rather than on the farm itself.

In any case, George Fottler would be the principal farmer on the Lambert farm for most of the next ten years. Son of a German immigrant, George had married Mary Alger of Hingham in 1871, and their first son, George Jr., was born on the Walk Hill farm in 1876. Unfortunately—as had happened so often in the past to other families in the area, including Elijah Weld and his sons—tragedy soon struck the Fottlers; the baby died of “infant cholera” in just over two months. A second son, Jacob Alger, was born in 1879, as family life began once more on the Walk Hill farm.

We’ll learn more about the Fottlers and their kin later in this chapter, but first we must go back and consider the history of the other farm connected to the lands of the Boston Nature Center, the old Williams estate. To be sure, by 1874 the large lot formerly owned by Betsey and Lucretia Williams—which now constitutes the center of the BNC—was owned by Forest Hills Cemetery and used for largely nonagricultural purposes, and the remaining farmland surrounding the old Williams homestead lay largely outside the boundaries of the present-day sanctuary. However, that farm still remained central to the agricultural development of the whole area, and so its fate forms an important part of this history.

When the Williams family moved away from the land in 1857, the farm with its two houses was first sold to Bishop John Fitzpatrick of Boston. Being a bishop, however, and old, Fitzpatrick did not work the land himself, but rather hired Silas Mack, who was originally from Charleston (now Charlestown), New Hampshire, but was then living with his family nearby, just over the town line in Dorchester. The 1860 census shows that Silas concentrated on dairy and apples—in contrast to his neighbor Lambert’s focus on swine and garden produce—along with the ubiquitous potatoes.

In 1866, Silas’s sons Henry, Harvey, and Horace bought the Williams farm themselves. However, the Macks did not immediately move onto the farm to live; rather, the 1870 census shows the homestead as occupied and farmed by William and Mary Hart and their two daughters. The two families were not strangers. Mary Hart and Silas Mack’s wife Betsey were both born with the surname Harlow, in Vermont, and so were probably sisters or at least cousins, and both the Harts and the Macks had come to the Boston area from Charleston,

New Hampshire—once again showing how family and social bonds were not always broken, but indeed often strengthened, by the challenges of migrating to a new place.

Also living in the Hart household were a niece from New York and a nephew from Massachusetts, as well as four laborers in their twenties from Canada and Vermont. The old Williams homestead must have been a busy and perhaps exuberant place, with all those young people around! Other farm workers seem to have been living in the other house on the property, as well. Alongside William Hart and the hired help, Henry Mack probably took some part in the farming, along with continuing work on his other rented land in Dorchester; brother Harvey was more involved in the distribution end of the dairy business, his occupation given in censuses and city directories as an “expressman” (deliveryman) or as a milkman.

Change was not long in coming, however. In 1879, at age 65, William Hart died of a combination of heart problems and pneumonia. His widow, daughters, and a few nieces and nephews continued to live in one house, along with three new farm laborers and a boarder who worked in a nearby lithography company; one imagines the place feeling more strained than before, with all these strangers about. (The remaining Harts eventually moved away to Hyde Park, where daughter Eliza married in 1886, and widow Mary died of cancer at age 77, in 1889.)

In the immediate aftermath of William Hart's death, the other house was soon occupied by Harvey Mack and his family. Harvey had married Lillie Grover of Boston in 1873, and they lived there with their two children and both grandmothers (Silas having died at some point previously). The farming operations continued to focus on dairy, apples, and poultry—as did most of the dwindling number of farms in Boston.

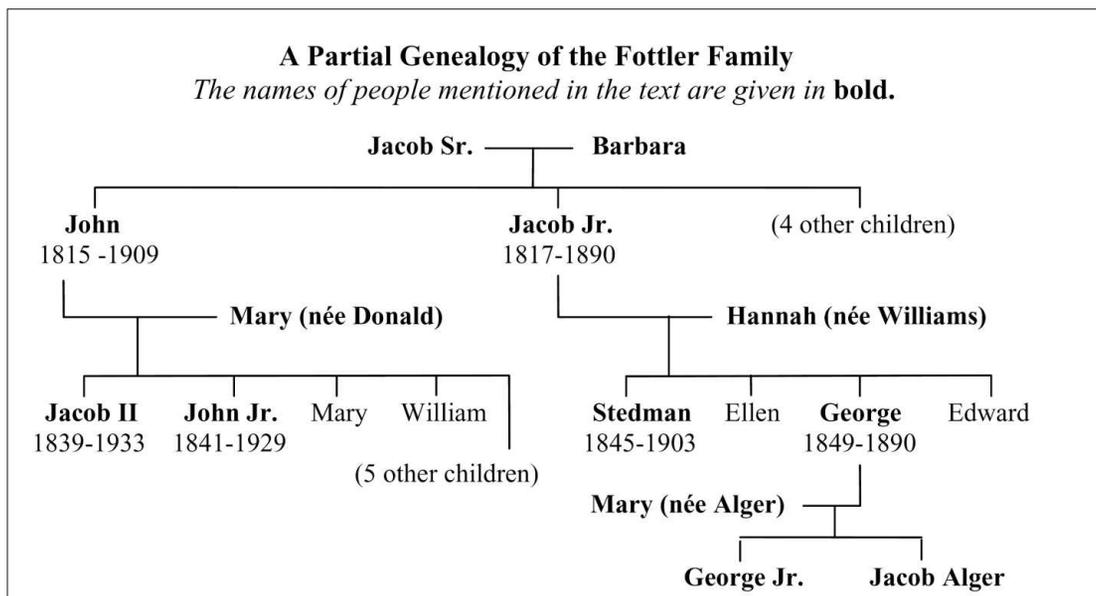
However, the Mack family's hold on the land proved tenuous. It is not clear what happened, but an 1884 atlas shows the farm as the possession of the Plymouth Savings Bank, so it seems likely that the Macks had gotten into financial or other business trouble and had been foreclosed upon. In any case, they no longer show up as living there in later censuses or directories. We do know that by 1900, Harvey Mack and family had moved to Rock Island, Illinois, where he was a passenger agent on the railroad; and that year, Henry Mack died of cancer and heart trouble at age 58. We also know who took their place on the old Williams farm: George, Stedman, and Jacob Fottler—the same Fottlers who for the previous ten years had been farming the Lambert farm on Walk Hill Street.

Who were the Fottlers? In 1830, Jacob and Barbara Fottler emigrated from Germany to America with their teenage sons John and Jacob Jr. and four other children. Passing through Boston, they originally intended to settle in the Midwest, but tragedy struck: In a much-publicized incident, a steamer sank in the Ohio River at Cincinnati, with Jacob Sr. and two sisters among the dead. Returning back east, the remaining family settled in Dorchester, where John, the eldest son, soon became breadwinner for the family with a job in Quincy

Market.

In 1838, John married Mary Donald, an English immigrant, and the couple began their own family. Making a career in the growing and selling of plants for the needs of the expanding city, John worked in a number of places around Boston; he helped to deliver and plant some of the first shrubs and flowers used in the new landscaping on Boston Common, worked in a nursery in Cambridge, farmed on Savin Hill in Dorchester, and worked his way up to serving as landscaping and agricultural supervisor for various large estates in the area.

Meanwhile, John's younger brother Jacob Jr. had married a Hannah Williams of Roxbury—probably from a different branch of the family than that of Isaac—and settled on a farm just north of the future BNC, on land now occupied by Franklin Park. Not long after, John and Mary settled with their family on another farm nearby. In the 1870 agricultural census, the Fottlers were the only farmers in the area who sold more garden produce, vegetables and flowers, than did their competitor on Walk Hill Street, Joseph Lambert; and, since John Fottler maintained strong ties to the marketing side of the business, they established a sort of family empire combining both production and distribution in one operation.



On the basis of their parents' success, the second generation branched out in various ways, some of them taking the family business in new directions. John's sons Jacob II and John Jr. were most interested in the marketing side, Jacob working in general produce at Quincy Market (and eventually holding positions in city and state government) and John Jr. building

a prominent seed company downtown in partnership with one Schlegel, presumably another German immigrant. Interestingly, both brothers became Masons, thereby increasing their influence in business and social circles both in Boston and farther afield. Of Jacob Junior's sons, George and Stedman stuck to their father's occupation of farmer, both on the family's lands and on other properties such as the Walk Hill farm, and another son, Edward, worked for a while as a clerk in a hardware store.

Seemingly by chance, just as the Macks were losing control over the old Williams farm, the Fottlers were being forced to sell their own farms to allow the creation in 1884 of Franklin Park (originally called West Roxbury Park). At the same time, Ann Lambert—widow of Joseph, who had died three years before at age 77—sold the Walk Hill farm to Nelson and Syretha Pierce of Boston, who seem to have moved onto the farm immediately and thus put Lambert's former tenants, George and Stedman Fottler, out of a job. Thus, the Fottlers—in need of land to work, and possessing ready cash—were able first to move onto the Macks's land and then eventually to buy it themselves, an 1896 atlas indicating that it was purchased in Jacob Jr.'s name. Others in the family bought additional property in the area as well, particularly on the Dorchester side of Back (Harvard) Street. As before, Jacob Jr., George, and Stedman were the farmers, while John Sr. and sons were the marketers.

Both Jacob Fottler Jr. and his son George died on the same day, May 3, 1890—the former of old age at 77, the latter of meningitis at 41. The family was resilient, however, and with Stedman as head farmer, they continued to cultivate the land and to market its bounty into the twentieth century. Later, when a new occupant—the Boston State Hospital—came onto the land, the Fottlers would play a crucial role in helping to adapt the agricultural practices of the past to the needs of the present and future. But before we get to that, let's look at the history of a part of the Boston Nature Center that has never been tilled or occupied—the marsh.



7.1. Portion of 1873 map of West Roxbury by T. B. Moses, showing the full Canterbury watershed from its origin in what is now Franklin Park (on the right) through its loop through Dorchester and into the wetlands of the current BNC before joining with Stony Brook in Roslindale (on left). Stony Brook then continues up along Hyde Park Ave and past Forest Hills Station to Jamaica Plain and Roxbury. Almost none of this system exists aboveground today, except for brook and wetlands on or near the BNC. *Map reproduction courtesy of the Norman B. Leventhal Map Center, Boston Public Library.*

## Wetlands and Birdwatchers

The marsh at the east end of the Boston Nature Center is a remnant of a much larger system of wetlands that once existed in the Canterbury Brook and Stony Brook watersheds. Throughout the nineteenth century, individual landowners had filled in particular wetlands, but in the 1880s the city of Boston began a comprehensive series of flood-control measures throughout the entire watershed of Stony Brook and its five tributaries. Much of the surface drainage was channeled through underground conduits, while the original streambeds were covered over and the wetlands filled in. Today, both the marsh and that portion of Canterbury Brook located in the BNC are among the few aboveground remnants of the original drainage system.

Unlike today, through most of the nineteenth century the wetland on the site of the BNC was not covered by standing water year-round, and so was properly referred to not as a marsh but as a wet meadow. In 1854, for example, one local landowner, Arthur W. Austin (a descendant of Isaac Williams), described the “Great Meadow” as a vast extent of soft mud, “sometimes five, and always three feet in depth.” To be sure, standing or slow-moving water could accumulate during severe storms, and Austin notes that during the winter and spring of 1853-54 the meadow was under two feet of water for months. Either way, whether under water or just muddy, the meadow (in Austin’s estimation) “can never be of value for building purposes.”

It was of value for something else, however: the rich, nutritious grasses that grew naturally in the wetland environment. Like fresh- and saltwater marshes, wet meadows are nourished by organic matter in the water that flows over and through them, and thus support a wide array of plant and animal life. In New England (and throughout the United States), farmers soon became aware that marsh grass provided excellent fodder for animals—with the added benefit that the resulting manure could be used as fertilizer, thus transferring the ever-renewing nutrients and organic matter of the wetland to the farmers’ fields.

One early farmer detailed the benefits of the wet meadows around the Concord River, saying that they “required no labor but that of reaping the harvest, no fencing, no fertilizing, but...on the contrary, they filled our cow-yards and barn-cellars with the best of fertilizers for our uplands.” According to environmental historian Ann Vileisis, “Nearly every farmer owned or leased a strip-shaped lot in the meadows from which they mowed hay. Freshwater meadows were critically important for agriculture throughout the Northeast.”

In the Canterbury section of Roxbury, land and probate records from the seventeenth century on show that plots of “fresh meadow” were highly valued by local farmers, fetching higher prices than surrounding farmland (though not as much as the even more fertile but more distant salt marsh). Indeed, by the nineteenth century, strips of wet meadow were sometimes bought and sold primarily as investments, reaping a harvest of cash rather than of grass or manure. Maps and atlases show that through the nineteenth century, the wet meadow on the site of the future BNC was divided into a complex array of small plots, with a changing array of owners.

Along with valuable grasses, the wet meadow also supported a wide array of animal life, particularly birds. Arthur Austin, whose large estate was situated on the high ground just northeast of the BNC (across from what is now Morton Street), described the view of the landscape from his house in 1851.

It is a territory full of rural beauty—from my door-stone in midwinter I have seen hundreds of robins, happy in the branches of my cedars...From my chamber this morning I cast my eye over hills covered with pines that have been undisturbed for ages, and which may remain for ages yet to come,—over a broad meadow, at which, in its periodical emigrations, the webfooted wayfarer of the upper deep seeks a temporary resting place, in which the bittern sounds its cry—from which the lark soars to heaven.

Although we do not know which particular species of duck Austin meant by “the webfooted wayfarer,” his sightings of robins, bitterns, and larks suggest the abundance of birds in the area.

Indeed, one of Austin’s young neighbors, Henry D. Minot, was an avid amateur birdwatcher. Son of a wealthy Boston family, Minot was largely raised at their impressive second home, named Woodbourne, which was situated just south of Forest Hills Cemetery, on Bourne Street. In 1876, at the tender age of 17, he published one of the very first guides to the birds of Massachusetts, *The Land-Birds and Game-Birds of New England*—described later by no less an authority than William Brewster, the first president of Mass Audubon, as “a remarkable and interesting book.” Although he had intended to issue a revised and updated version of the book, he was killed unexpectedly in a railroad accident in 1890, at age 31.

As a youth, Minot tramped the hills and fields of the area and made close observations of the birds that he saw. His description of the robin certainly matches Austin's observation: "A few [robins] certainly spend the winter about us, in the swamps, and also in cedar-woods; for, though these latter contain but few berries, or none, yet the thick foliage of many of the trees affords safe shelter from heavy storms of snow, when protection is much needed." Minot continues his account with the arrival of spring migrants.

Though I have seen companies of Robins in February, it is not usually until the early part of March that they come from the South on their arrival, collecting in flocks and feeding on barberries, small fruits of the same kind, and such other suitable food as they can find. They retire, at this season, a few minutes before the hour of sunset, generally passing the night in spruces; and, in the early morning, arising before the sun, they betake themselves to the southern slope of some hill, where the snow has melted, thus offering to them the comfort of a little bare ground, and there they pass the day.

And although Minot may or may not have spotted meadowlarks exactly on the meadow below Austin's house, his description amplifies the latter's brief observation at that site.

[Meadowlarks] appear in Massachusetts about the middle of March, and they may then be found in almost every broad meadow which is bordered by rising ground. Though they often perch in tall trees and in bushes, yet they are most often upon the ground, where, like the true Larks, they walk and do not hop. They obtain their food, which consists of insects and seeds, from meadows, fields, and occasionally plowed land. They fly with a rapid but intermittent quivering of their wings, usually near the ground, but not unfrequently at a considerable height.

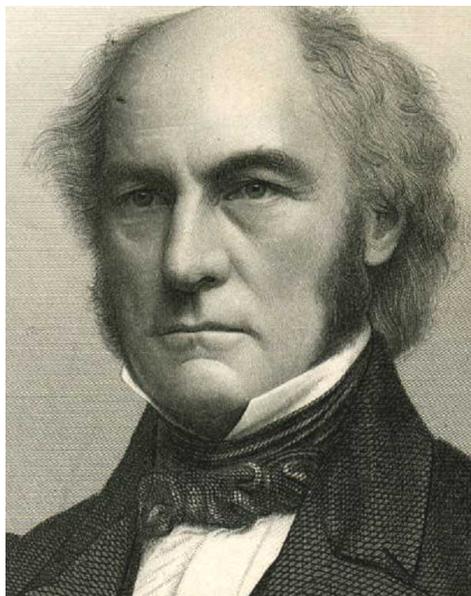


7.2. Henry D. Minot in 1887, at age 28. From *The Land-Birds and Game-Birds of New England, Third ed. (Boston, 1903).*

However, even as the wet meadow remained the abode of birds rather than of people, it was not completely immune from outside influences. Over the second half of the nineteenth century, the development of the surrounding area for agricultural, residential, and transportation purposes slowly changed the topography and hydrology underpinning the wetland, with the result that the meadow became both smaller and wetter—indeed, the wet meadow was transformed into something more like the marsh that it is today. Of course, the process continued through the twentieth century as well (and on into the twenty-first), but here we will consider just one important change that took place in the early 1850s: the construction of a new road—now Morton Street—across the meadow.

By the mid-nineteenth century, many of the larger landowners in the area—including Arthur Austin—were calling for the separation of rural, agricultural West Roxbury (which then included what are now Jamaica Plain and Roslindale as well as present-day West Roxbury) from the increasingly urban municipal center of town. The movement gained impetus in 1846 when Roxbury voted to adopt a city form of government, which the West Roxbury landowners argued was an inappropriate political system for their sparsely populated, rural community. After West Roxbury voted for separation in 1851, Austin himself took the lead in the government of the new town, handling much of the administrative and legal work of municipal affairs, often for little or no pay.

One of Austin's early projects was building a road across the wetland below his house, to facilitate easier traffic between Jamaica Plain and Dorchester. (Clearly, even as he appreciated the birdlife of the spot, practical business affairs came first in Austin's mind.) Vexed by the problems of building a stable road in deep mud that would be strong enough to stand up to periodic seasonal inundation, Austin and his engineers settled on a two-pronged approach. First, they modified the brook to better drain the water from the meadow: "In the first place, a large culvert—substantial and somewhat costly, was requisite to take through the Great Meadow the flowing waters that pour along in spring and winter with great rapidity and powerful force." Atlases and photographs from the period show this culvert as a straight channel running through the wetland, very different from the natural winding stream depicted in earlier maps (and from the brook as it is today, as we'll see in Chapter 9).



7.3. Arthur Williams Austin, Esq. *From The United States Democratic Review vol. 41, no. 4 (April 1858).*

In the second stage of construction, Austin's workmen dug down through the mud to solid ground before building up a stable roadbed, and added a deep ditch on the northeast side of the road which, filled with stone, would support a stone wall to act as a barrier against surface water flowing down the grade. Oddly, Austin's account does not mention any bridge or tunnel to allow the brook to pass under the road, though something of that sort must have been constructed (either then or soon after) to allow at least some of the water on the northeast side of the road to get through to the southwest—to then be drained through the meadow by the new culvert channeling the waters of the brook.



7.4. The BNC wetland as viewed from Morton Street around 1900. Note the straight culvert (recently created by Arthur Austin's workers) channeling water through the center of the wet meadow, as well as the absence of trees around the wetland—a very different place than it is today. *Photo from the Boston Water and Sewer Commission.*

The plan worked, and the road—originally called Austin Street but a few years later renamed Morton Street, after another prominent local family—still exists today. However, the bisection of the wetland by the road has had ecological effects that also are still with us today. Most immediately, a number of later maps suggest the emergence of ponds on the northeast side of the road, as the underground and surface waters halted by the deep-set roadbed settled into long-term reservoirs. Moreover, in subsequent years, the increased construction of buildings and roads in the surrounding neighborhood would further transform the hydrology of the meadow, concentrating the water flow of the whole area into the remaining wetland and thus making it wetter and more marshlike.

Even as the marsh became wetter, though, it was still attractive to a variety of birds, and so was also attractive to birdwatchers as well—including some associated with the new scientific birding organizations that emerged at the end of the nineteenth century, such as the American Ornithologists' Union (AOU) and Mass Audubon. One of these early birding enthusiasts was young Francis Birtwell of Dorchester. Birtwell was born in England in 1880 to Joseph, a 34-year-old merchant originally from Lancashire, and wife Rosina, twelve years his junior. With two other sons, the family emigrated to America in 1884, first settling in Chelsea, where three more children were born. At some point, however, father Joseph died, and the census for 1900 shows Rosina and the six children living in Dorchester (with one servant, Florence Smith from Canada).

Showing an interest in science—and particularly birds—in high school, Francis found his interests energized by participation in a number of local and national scientific organizations: he was founder and first president of the Roxbury High School chapter of the Agassiz Society (an early organization that supported the study of natural history), a charter member of the American Bird Restorer's Association, an active participant in the Nuttall Ornithological Club (the first prominent birding organization in the country, based in Cambridge), and ultimately a member of the AOU. At age 17, Birtwell entered the Bussey Institute (the

forerunner of the Arnold Arboretum) and soon advanced to the main Harvard campus in Cambridge, where he excelled in the study of birds.

In 1899, during a summer of study at the Brooklyn Biological Laboratory, Birtwell discovered that he had tuberculosis. He soon decided to move to New Mexico for his health, where he continued his investigations into the effects of food and environment on the plumages of birds and, for his thesis, worked on a book-length ornithology of his adopted state. Unfortunately, he died just a few years later, in 1901—not of tuberculosis but of an accident while birding in the rugged mountains of New Mexico.

A few weeks before his death, Birtwell sent a long letter back to a Dorchester newspaper, the *Beacon*,



7.5. Francis Birtwell at age 19. *From* The Osprey (April 1899).

reminiscing about his youthful exploits searching out birds in his favorite local haunts—including the woods and wetlands that lay between Dorchester and Jamaica Plain. He recounts one journey beginning “on the corner of Blue Hill avenue and Morton street—the old Back Street woods. A world of unsuspected life lived under the shady oaks and maples, and at twilight, a few spots of gold falling between the leaves, flecking the aisles of ferns and mossy stones—the veery would chant his vesper, the silvery tones stealing as soft as the night, through the dusky stillness.”

Wandering toward Jamaica Plain, he came to the Dorchester branch of Canterbury Brook and followed it to the wetland of the BNC today, encountering on the way a host of his favorite birds: redstarts, vireos, chestnut-sided warblers, grosbeaks, an ovenbird, and a hummingbird. At the end of the hike, “when the stream left the great old willows of the wood, it bounded through a field of bobolinks into my swamp and there fed the waves of dark green grasses and the thickets of willow and alder.” But, though he describes the woods as “a grand temple, finer far than man ever fashioned,” he also notes the effects of human intervention, including the first stages of channeling the brook underground, which had taken place upstream in the past few years: “Recently [the brook] was caught and housed, in part, so that the willows are somewhat lonely now, and the tiny reddish shocks of skunk cabbage are fewer each year.”

Some of Birtwell’s personality, and his joy in birds, comes through as he tells of following some warblers and finding a unexpected nest.

One Sunday morning—I can smell the wild, delicious odors of that day again—I was following a pair of black-and-white warblers about, which were, in a most suspicious manner, picking up and dropping dried oak leaves. Try as one could, however, the birds proved too clever for me, and I failed to find the nest.... But the unexpected occurred, as it usually does to the rambler, and constitutes thereby not the least of the pleasures of the walk. While cautiously crossing a clearing, dotted with low-bush blueberry shrubs, pushing up the fallen leaves, I almost trod on a bird which fluttered from my feet.

Her secret was out, and in an instant I was on hands and knees, gazing into the open door of an ovenbird’s nest. A tiny dome of dried oak leaves—that was all, to the casual eye. But under the apparent disorder existed an exquisite nest of fine hair and bark, with five red-spotted eggs resting below the rim of the entrance, which was fashioned in one side.

From afar came the song of the male and as I withdrew, the female stole back to her matchless treasures.

Inspired by such experiences—both of beauty and of change—in the woods and wetlands of Dorchester and Jamaica Plain, Birtwell ends his reminiscences with a call to action.

Let the reader himself go afield—go before too late—before the bird and plover haunts of Dorchester are of the past. They are going quickly, and the city draws nearer—good, in its place, but never as the idol and complete sphere of existence. Leave a few free fields, save a few of the beautiful woodlots. Life will be happier for them, and healthier too. We live too much in an environment of our own creation... [We lead] limited lives, out of harmony with the facts and laws of [our] very being. True living embraces both the artificial (or social) and natural, self-existent environments, and the individual living thus is both a joy to his associates and his life a constant pleasure... So I say, save a few of the old woody places; let a few of the flowers bloom, as when in childhood days they formed your delight, and the whole country will be better and knowledge deeper, and life with true refinement, happier.

Perhaps if Francis Birtwell had lived longer, the Boston Nature Center and Wildlife Sanctuary would have been created much sooner than it was.

A final ornithologist whose love of birds was rooted in part in the wetlands and woods that are now the BNC did live long enough to have a significant career in bird science and conservation in the twentieth century. James Lee Peters was born on August 13, 1889, the first child of Austin and Frances (Lee) Peters. His father was a prominent veterinarian, and the family lived right next to Franklin Park (at the corner of Walnut and Peter Parley streets), so the young James had both encouragement and opportunity for nature study close to home. His grandfather Francis Peters also lived close by; interestingly, after James joined the American Ornithologists' Union in 1904, Francis became a regular (if modest) contributor the following year, suggesting that the grandfather too shared and encouraged his grandson's fascination with birds, perhaps from an early age.

That summer, through the influence of his father, James accompanied noted amateur ornithologist A. C. Bent on a summer excursion to the Magdalen Islands. Soon afterwards, he encountered another important mentor, C. J. Maynard of Newton, a science teacher who led local bird walks for both students and adults. Through Maynard, James became acquainted with a group of young birders from Brookline High School (James was at Roxbury Latin), and in accord with the organizational spirit of the times, in 1905 they started their own local birding group, the Norfolk Bird Club, to share their sightings, discuss bird lists, and plan outings.

The following year, James began participating in an activity promoted by yet another birding organization, Mass Audubon, which distributed printed forms to its members to record their first sightings of different species within the state throughout the year. The forms were to be returned to Mass Audubon at the end of the year, and the ten birders with the most species were singled out for praise in the pages of the national Audubon journal, *Bird-Lore*,

which published the top two lists in their entirety. Interestingly, the top list of 1906 was submitted by Lydian E. Bridge of West Medford, and five of the top ten listers that year were female, suggesting that birding was as much an activity for girls and women as it was for boys and men. The second-place lister was James Peters, and so his list was published with Lydian's in the magazine the following year.

James's list shows both that he birded extensively throughout the eastern part of the state—recording many first sightings in places like Ipswich, Martha's Vineyard, Weston, and Cambridge—and that his favorite places were right in his own back yard: Franklin Park, and the place just south of the park that he called “Morton Marshes,” i.e., the marshes around Morton Street, now the BNC marsh. On January 2, for example, he saw his first sharp-shinned hawk of 1906 at Franklin Park, along with his first American crow, black-capped chickadee, golden-crowned kinglet, and ring-necked pheasant; on January 14, his first tree sparrow of the year at Morton Marshes; on January 16, he saw his first red-shouldered hawk and song sparrow at the Marshes, along with a brown creeper at Franklin Park; on the 21st, at Morton Marshes, his first northern shrike; and the list went on:

February 25: Red-winged blackbird and meadowlark at Morton Marshes

April 13: Swamp sparrow at Morton Marshes; vesper sparrow at Franklin Park

April 22: Brown thrasher at Morton Marshes

May 8: Black-crowned night-heron at Morton Marshes; bobolink at Franklin Park

We can imagine the young James at 17—five-foot-five in height, brown hair, fair complexion, grey eyes set in an oval face—heading out in the morning from his home on Walnut Street, on the edge of Franklin Park; tramping through the Wilderness, those grey eyes sharp for birds; perhaps climbing up Schoolmaster Hill for the view, then over the greenway to Scarborough Pond, and on down to the tangled, vibrant Morton Marshes, his mind keen with memories of past sightings and with the excitement of things to come.

From these beginnings, James L. Peters went on to become one of the most distinguished American ornithologists of the twentieth century—study at Harvard, expeditions throughout North and South America, head curator at the Museum of Comparative Zoology, president of the AOU, author of the groundbreaking *Check-list of Birds of the World*, and a host of other achievements and honors. By one of the twists of history, however, his old stomping grounds at the Morton Marshes would be closed to access by scientific and amateur birders for most of the rest of the century when it became occupied—and transformed—by a new institutional presence: the Boston Insane Hospital.



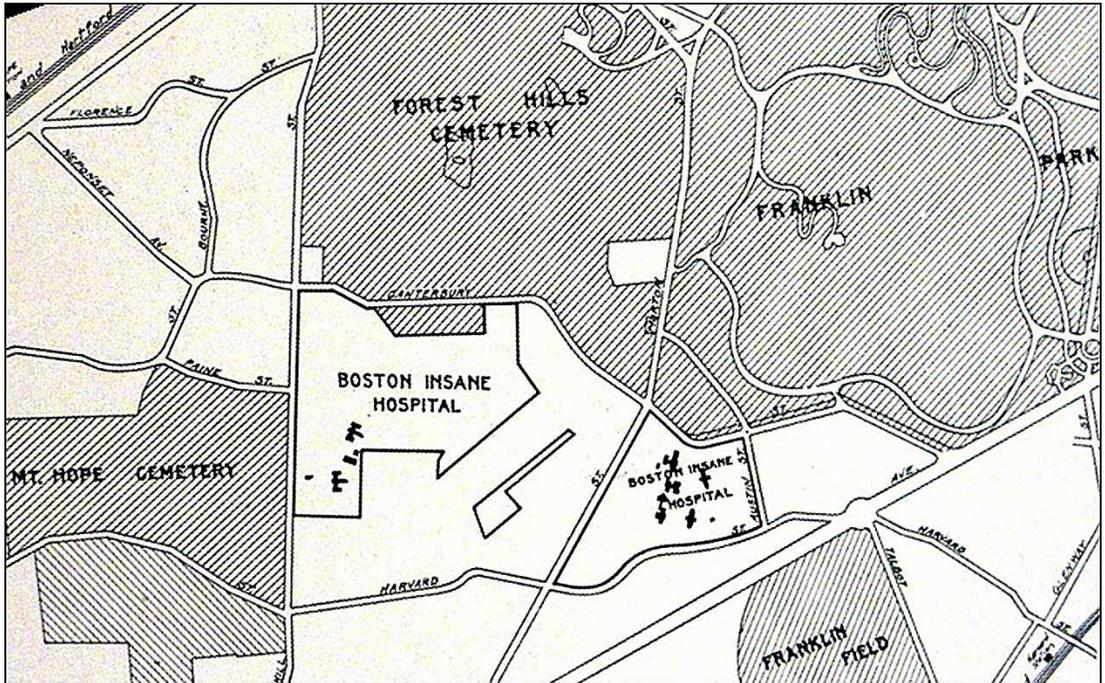
## Man and Nature at the Boston Insane Hospital

In 1874, despite the protestations of Arthur W. Austin and others, the town of West Roxbury voted to become part of the city of Boston. Although the town's attempt to remain an independent agricultural enclave proved short-lived, its farming heritage played an important role in shaping the geography of the emerging city. During the years that West Roxbury fought to maintain its rural character, it preserved more working farms (such as those of the Lamberts and the Fottlers) than any of the towns surrounding it, and also welcomed new development that utilized open space in harmony with the town's pastoral ideals—most notably Forest Hills and Mount Hope cemeteries and the Arnold Arboretum.

Therefore, by the time West Roxbury gave up its independence, it was already established as a sort of “green” corner of the metropolis, and offered open space for further development along those lines. So, for example, when the city asked the renowned landscape architect Frederick Law Olmsted—one of the creators of Central Park in New York—to design a large-scale urban park in Boston, the location chosen for the park was in the rolling farmland and estates of former West Roxbury. Indeed, the original name for the park when it opened in 1884 was West Roxbury Park, though it was soon changed to Franklin Park.

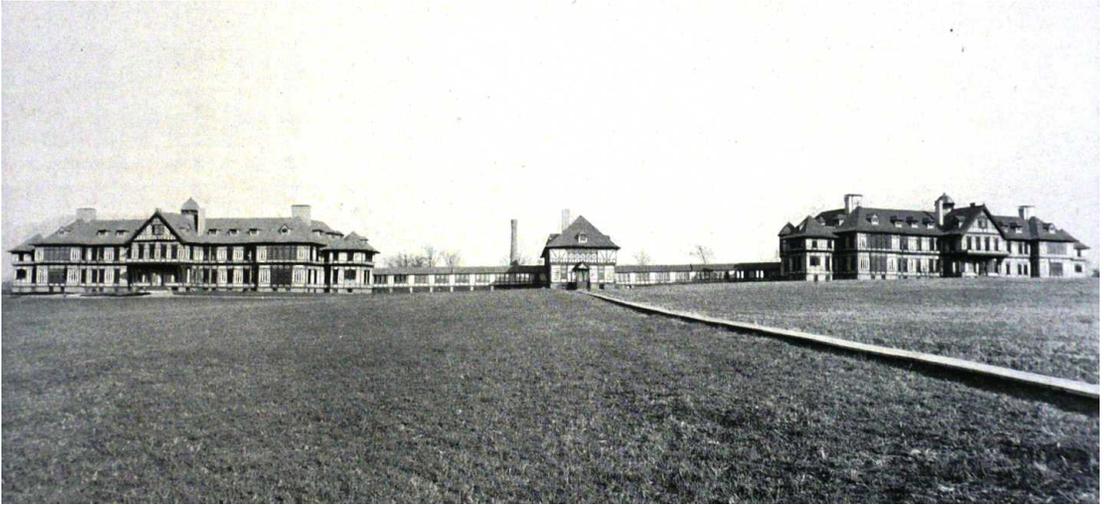
For his part, in 1873 Arthur Austin sold his own estate—on the high land just east of Morton Street—to the city of Boston, which initially used it for an almshouse. In 1884, however, Austin Farm was transformed into a “Retreat for the Insane,” caring for some of its own former residents as well as 84 patients from the city-run Boston Lunatic Hospital (founded in 1839 in South Boston). Five years later, Austin Farm became a department within the Lunatic Hospital, specializing in the care of mild and long-term cases of mental illness (while more acute and “excitable” patients were treated at the old South Boston facility). Just a few years later, in 1892, the decision was made to close down the South Boston facility completely and to consolidate the operation closer to Austin Farm.

Accordingly, the city of Boston first purchased the thirty-five-acre farm along Walk Hill Street that formerly had been owned by Joseph and Ann Lambert but in 1882 had been sold to Nelson and Syretha Pierce, and was therefore known as Pierce Farm. The city then acquired the adjoining forty-two-acre parcel of cropland, pasture, and marshland that had been part of the old Williams estate before it was sold to Forest Hills Cemetery. The two properties—subsequently known simply as Pierce Farm—were united with Austin Farm to create the renamed Boston Insane Hospital. Later, in 1909, the institution would be transferred from city to state management, in the process gaining the name by which most people remember it today—the Boston State Hospital.



8.2. Map from 1901 Annual Report, showing the Boston Insane Hospital and neighboring open spaces. The caption states that with the addition of the land between the two farms—acquisitions that would indeed take place over the next few years—the hospital and surrounding greenspace would include over 1000 acres. *Courtesy of the City of Boston Archives.*

Although Pierce Farm was originally used for acute cases of both genders, it was soon decided that Austin Farm would house women, while Pierce Farm became the “Department of Men” of the Boston Insane Hospital. The new buildings at Pierce Farm, designed by city architect Edmund March Wheelwright, opened in 1895. Moreover, with the purchase of the old Morton property—including a large part of the marshes—in 1902, the rental and eventual



8.3. The hospital buildings at Pierce Farm as seen from the Walk Hill side, in a photograph from the 1909 Annual Report. *Courtesy of the City of Boston Archives.*

purchase of the Fottler farm beginning in 1905, and other properties, the hospital expanded to include all of the lands bounded by Canterbury, Walk Hill, Harvard, and Austin streets—a total of 232 acres, 67 of which now constitute the Boston Nature Center.

To more fully understand the hospital's reasons for relocating from South Boston to Pierce and Austin Farms, let us think a bit about how people in the nineteenth century thought about mental illness and its treatment. At that time, the terms “insane” and “lunatic” conveyed somewhat broader and often gentler meanings than they do today, referring to anyone whose mental or emotional capacities were unstable or left the individual unable to cope with the pressures of life, for whatever reason or for whatever length of time. Indeed, the Annual Reports of the hospital in these years show that two of the major causes of “insanity” in their patients were senility and intemperance (alcoholism), as well as menopause, overwork, emotional stress caused by ill health, worry, and similar circumstances. Today, many of us might address some of these same issues by going for a few sessions with a therapist, taking antidepressants, going to a support group such as AA, or even just taking a vacation—but these options simply were not available to the working-class residents of the Boston Insane Hospital at the end of the nineteenth century.

While the staff of the hospital did recognize some of the deeper neurological or psychological issues with which we would usually associate the term “insanity” today—congenital insanity, epilepsy, brain injuries, etc.—these constituted a relatively small portion of their overall caseload. In most cases, it was assumed that what a troubled person really needed to get better was fresh air, hard work, and temporary separation from the stresses and evil influences (both social and environmental) of city life, an approach that was

referred to as “moral treatment.” (To be sure, we now see some of the flaws in this approach as well, especially in ignoring the importance of family and community ties in supporting emotional health and recovery.) Thus, with these understandings of illness and treatment, when the Boston Lunatic Hospital’s leaders saw the need to move out of the old and overcrowded facilities in South Boston, they looked to rural, peaceful West Roxbury as an appropriate setting for a new hospital.

Indeed, most of the recent open-space developments already in West Roxbury explicitly shared with the hospital an underlying concern for health. Franklin Park, for example, was designed as a place where people working in the cramped and smoky quarters of the city could maintain both physical and mental health, through exercise and recreation—in the original sense of *re-creation*, making one’s body and mind feel new again. Cemeteries such as Forest Hills, too, were designed as places for personal reflection and refreshment, but had explicit public-health dimensions as well. In the days before modern mortuary science, when human bodies were allowed to decompose naturally like other animal bodies, urban cemeteries were often dangerous and disease-ridden places, and so as a matter of public health they were usually located as far outside of the urban center as practical, in pastoral (and dry) settings. In all of these cases—mental hospital, park, cemetery—individual and public health could only be attained in the context of a healthy and invigorating natural environment, and it was precisely that sort of environment that the former West Roxbury had to offer to the rest of Boston.

According to the tenets of “moral treatment,” the mentally ill would benefit from productive work outdoors—and there was much work to do on Pierce and Austin Farms. Both for practical and for therapeutic reasons, the hospital continued to work the land as a full-scale farming operation. Pierce Farm produced a wide range of vegetables—three kinds of beans and two of beets, celery, cabbages, carrots, cauliflower, and on through the alphabet to squash, tomatoes, and turnips—along with large amounts of milk, pork, and animal fodder and hay. For their part, the residents and staff of Austin Farm concentrated on fruit production—apples, grapes, rhubarb, and berries—as well as pork, chicken, and eggs.

From 1895 to 1919, the agricultural work at Pierce Farm was under the control of head farmer Louis S. White. White was the son of farmers Lydia and Francis White of Stratton, Vermont; Lydia was a third-generation Vermonter from nearby Wardsboro, but Francis had arrived in Stratton in the early 1850s from Templeton, Massachusetts, after the death of his first wife, Sybil. To the four surviving children from his first marriage, Francis and Lydia added three more of their own, making a bustling household for their second-youngest son, Louis, born on April 16, 1859. After attending local schools and working on the family farm, in his early twenties Louis made his first move away from home, to Strafford in central New Hampshire. In 1884, he married schoolteacher Clara E. Holmes from nearby Barnstead, and the couple moved back to Vermont to farm for the next five or so years. Their first daughter,

Lydia, was born in 1885. Then, for some reason—perhaps family connections on his father's side—the young family moved to Massachusetts; in 1889, Louis joined the Masonic Lodge in Bridgewater, and the next year, at age 31, he was appointed head farmer at the Boston Insane Hospital's Austin Farm. In 1895, he was moved to the newly acquired Pierce Farm, where he served as head farmer for the next twenty-four years.

Alongside Louis and Clara's work—the farmer and the farmer's wife—the family shared the ups and downs of American middle-class life. Their second daughter, Priscilla, was born at Pierce Farm in 1896; in 1900, after years of renting, the family bought and moved into a new house at 33 Mattapan Street; and in 1904, first daughter Lydia died. Established in the community, Louis switched his Masonic affiliation to the Washington Lodge in Roxbury in 1912. After Louis retired in 1919, Priscilla and her new husband moved into the house on Mattapan Street, to which Louis added a two-car garage in 1923. Louis White died at his home in 1936.

During his long career as head farmer, White oversaw and worked alongside a shifting group of farmworkers, stablemen, teamsters (drivers), and laborers. In the early years of Pierce Farm, most of these workers were young, single men who worked for only a year or two—sometimes only a few months or a season—but a significant few of them stayed for a longer period. The federal census for 1900 gives us a demographic snapshot of the outdoor workers on the farm—at least, those who were employed on June 4, keeping in mind that some may have left or others may have been added over the course of the entire year. Most strikingly, six of the nine workers listed as "farm laborers" were unmarried, Scottish-speaking immigrants from Nova Scotia, with an average age of 24. This strong Nova Scotia connection doesn't seem to represent an overall trend in Boston-area farmworker demographics; for example, of the seven workers at a nearby farm (that of Aaron Weld in West Roxbury), five were immigrants—but from Ireland and

### Workers at Pierce Farm in 1900

"b." = birth year; "imm." = immigration year

- William Adams, 46, gardener  
*b. England, imm. unknown*
- Frank Conray, 20, farm laborer  
*b. Canada (Scottish-speaking), imm. 1896*
- William J. Elliott, 25, farm laborer  
*b. Charlotte, VT*
- Almon F. Foss, 28, farm laborer  
*b. Strafford, NH*
- Angus Fraser, 28, farm laborer  
*b. Canada (Scottish-speaking), imm. 1892*
- Murdock McGregor, 23, farm laborer  
*b. Canada (Scottish-speaking), imm. 1900*
- Daniel K. Morrison, 23, farm laborer  
*b. Canada (Scottish-speaking), imm. 1899*
- Roderick Morrison, 26, farm laborer  
*b. Canada (Scottish-speaking), imm. 1892*
- James L. Tupper, 44, stableman  
*b. Canada (English-speaking), imm. 1882*
- George M. Turner, 34, farm laborer  
*b. Maine; married 1892*
- Alex Walton, 23, farm laborer  
*b. Canada (Scottish-speaking), imm. 1899*

Wales, not Nova Scotia. Rather (as is often true in the immigrant experience), there may have been some particular set of relationships and precedents that brought young men from Nova Scotia to work at the Boston Insane Hospital. Interestingly, Robert Morrison, head gardener at Austin Farm for twenty years from 1877 on, was an immigrant from Scotland, and he may have helped to make the farm an attractive place for young Scottish-speaking immigrants when they first arrived in America. In any case, given that Morrison and his son Robert Jr. moved over to work at Pierce Farm for a few years before the former's death in 1899, it's no stretch to imagine father and son conversing with their new colleagues in Scottish as they worked, or relaxing at the end of the day with Scottish songs or stories.

The three other farm laborers recorded in the 1900 census were from northern New England and, with an average age of 29, were older than the Nova Scotians. In addition, two specialized employees (gardener and stableman) were older (mid-40s), English-speaking immigrants—one from England and one from Canada. Young or old, immigrant or migrant, these workers probably shared in many of the same experiences of people trying to make it in America. Although we don't know much about the rest of their lives, later records show that a few of them used brief stints as farmworkers at Pierce Farm as steppingstones to more-substantial employment at the hospital, one as gardener at Austin Farm and two or three as hospital attendants. One of the latter, William Elliot from Vermont, ended up marrying an attendant at Austin Farm, Nora Hurley, before moving to Waltham to work as a railroad conductor. At the same time, other lives went in other directions; one 1900 farmworker seems to have left employment at the hospital for a while and then returned as an attendant, only to show up in the 1910 census at the Deer Island House of Correction—and back at his parents' house in Nova Scotia the following year.

With such a changing, unsettled workforce, a large part of Louis White's job as head farmer would have been managing his men—a task made more difficult by the cultural and linguistic differences between him and his immigrant employees, not to mention the hospital residents who also worked as laborers on the farm (as part of their "moral treatment"). As often happens, the situation drew forth a person who seems to have been uniquely suited to act as a sort of intermediary between management and workers. Freeman McKenna was born in 1865 to Maria and Thomas McKenna, the latter a day laborer in Yarmouth, Nova Scotia. In 1890 Freeman immigrated to Boston, and he began working at the Boston Insane Hospital in 1896, boarding at Pierce Farm and variously listed as a day laborer or a night attendant—in any case, not as a farmworker. In 1899, at age 34, he married Mary Kehoe, a 27-year-old waitress who had emigrated from Ireland in 1892. Freeman and Mary moved into a rented house at 679 Canterbury Street, which they shared with another family and two single male boarders, all of whom were listed as laborers in the 1900 census. This neighborhood—just across Walk Hill Street from the BNC and further bounded by Canterbury and Paine streets—is now home primarily to American Legion Highway, a number of small businesses,

and the Haley School, but at the time was a thriving community of immigrants (largely Irish) who had come to work as laborers on the nearby railroad and Forest Hills and Mount Hope cemeteries. Many of these immigrants had married, started families, and settled into stable if modest lives in America; the McKennas' nearest neighbor, 60-year-old James Conniff, emigrated from Ireland in 1852 and was listed in the 1900 census as a carriage trimmer who owned his own house (though with a mortgage on it). On September 11, 1901, Freeman McKenna became a naturalized American citizen, and on September 25, 1904, he celebrated the birth of a son, named Thomas after his grandfather.

Also in 1904, Freeman McKenna was listed in the Boston City Employees roster as a "foreman," clearly marking a new direction to his work. His job title shifted a few times over the years—perhaps because he was filling a somewhat undefined, ad hoc role—but he was most commonly referred to as a foreman, not simply a laborer but helping to manage the complex and changing group of outdoor workers at Pierce Farm. In 1905, he was listed as "farm attendant" with wages of \$40 a month, distinct from other farmworkers paid \$28, \$25, or \$20 a month; by 1910, other financial records indicate that he was paid at the level of "assistant farmer," receiving \$45 a month (as compared to \$30 a month for a regular farm laborer). Given his lack of background or training in farming, though, it seems likely that he was less of a farmer and more of a "people person," adept at working with his fellow immigrants (from Nova Scotia or Ireland), perhaps knowing enough Scottish from his childhood to converse in that language—in any case, a more approachable person than official head farmer White, the New Englander. Moreover, given his few years of experience as attendant at the hospital, McKenna also may have been skilled at relating to the hospital residents who worked on the farm as well. Finally, his long tenure at Pierce Farm—he stayed until the late 1910s, almost as long as White—gave him an intimate knowledge and institutional memory of the workings of the farm, as well as of the land itself, a level of experience that must have made him a trusted colleague of the head farmer. Indeed, there's every reason to think that McKenna's skills, personality, and dedication made him as essential to the life and work of Pierce Farm as White himself.

Despite Pierce Farm's urban setting, hospital affiliation, and idiosyncratic workforce, the agricultural goal of the operation was basically the same as at any other farm of the period: to produce as much food as possible with the resources available, including the possibilities and limitations of the particular piece of land being farmed. It's important to remember that even as late as the first third of the twentieth century, industrial farming did not yet exist in its modern form—the technologies, transportation, and markets upon which that depends didn't begin to emerge until after World War I (as we'll see in the next chapter), and especially after World War II. Without the whole array of fertilizers, herbicides, feeds, seeds, financing, and so forth that define agriculture today, Pierce Farm operated in an essentially traditional manner, with important elements that we now would laud as "sustainable agriculture."

Indeed, in at least one sense, incorporation into the hospital proved to be a step *backward* in time for Pierce Farm: in contrast to the cash crop and market orientation of Joseph Lambert, everything that Louis White and his colleagues produced was meant to be consumed on-site, by the people living on that patch of land—just as in the days of Elijah and Elizabeth Weld.

Information in the institution's annual reports offers insight into the workings of the farm. Pierce Farm's herd of cattle was particularly important to the hospital, producing 107,142 quarts of milk in 1896. Unfortunately, that year the presence of tuberculosis was discovered among the cattle, and a number of animals died or were destroyed. Subsequently, it took years of care and attention on the part of farmers, workers, and residents to rebuild the herd; in 1900, the Annual Report noted that the herd was in good condition, producing almost enough milk for the hospital's needs: 19,236 cans, worth \$6,732. Milk production stayed at that level through the next decade, the numbers for 1908 being 22,579 cans, worth \$9,032. Pigs, too, were an important presence at the institution; in 1896, Pierce Farm produced 4,990 pounds of pork, and Austin Farm 6,250. In 1900, the combined pork production at both farms rose to 20,500 pounds, and it stayed around that level for the following decade.

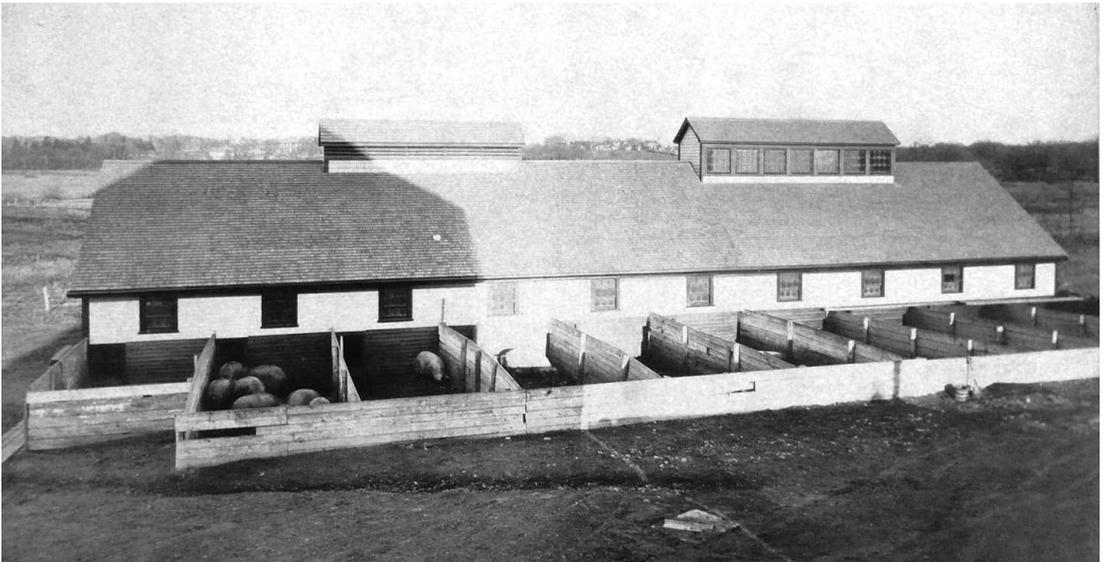
Overall, both farms produced about one-third of the institution's food requirements. In 1900, for example, with a resident population of about 500, the institution purchased \$26,010 of food while it produced agricultural products worth \$15,684; by the end of 1908, resident population had expanded to 858, food purchases had increased to \$39,444, and farm productivity had kept pace with an increase to \$22,946. Clearly, the hospital was far from self-sufficient, but, again, virtually everything that it did produce was consumed on-site.



8.4. Cattle at Pierce Farm around 1900, grazing near where the George Robert White Environmental Conservation Center is today. *Courtesy of the Special Collections Department, State Library of Massachusetts.*

We can gain a deeper sense of how the farm operated in this period by looking at some statistics from 1909. In that year—after the institution had been transferred to state control (as will be discussed in the following chapter), but presumably still following the same agricultural practices that head farmer White had been employing for years—the workers at Pierce and Austin farms fertilized their crops with manure from their own animals worth \$2,520, spending just \$180 to buy additional fertilizer. In turn, these inputs helped to produce a wide range of animal fodder at Pierce Farm—English and meadow hay, oats, peas, millet, alfalfa, corn, rye, cabbage, mangel-wurzel (a type of beet), and silage (fermented from otherwise unusable green plant matter)—that was worth about \$5,834 (plus hay for animal bedding worth \$220). To supplement this, the hospital expended about \$4,308 to purchase a range of additional feeds, mostly byproducts of local industries—brewery grains, cottonseed meal, gluten, bran, and middlings—plus some hay. Thus, Pierce and Austin farms raised both crops and animals using fertilizer and fodder primarily produced on-site, and even the fodder purchased from elsewhere involved efficient use of what otherwise would have been waste products.

This principle of the careful use of all available resources extended to the rest of the institution as well; even as the farms helped to feed the hospital, they were in some small part fed by it—in particular, by its kitchen waste. The Annual Report for 1897 described the need for both a new barn and a “piggery,” “where the kitchen waste of both farms can be used to advantage”—reminding us that composting and recycling are not such modern concepts as we might sometimes think. (A new piggery was indeed built at Pierce Farm later that year.)



8.5. Piggery at Pierce Farm, built in 1897 somewhere near where the BNC parking lot is today. *Courtesy of the Special Collections Department, State Library of Massachusetts.*

The same philosophy was also applied to the hennery at Austin Farm, of which the superintendent stated in the Annual Report: "Beside furnishing occupation to a few patients it has been a source of profit as well. I know of no other way in which certain table refuse can be so profitably used"—with "profit" understood not as cash income but as the welfare and sustainability of the institution as a whole.

Describing such practices as "traditional" should not be taken to deny the importance of innovation or the influence of the scientific knowledge of the day. Indeed, the very decision to place milk at the center of the farm's production (and the hospital's consumption) was shaped by the recent scientific and cultural consensus that milk was a nutritious and safe food both for adults and for children—a controversial idea before the invention of pasteurization and of sterile milking and bottling procedures in the second half of the nineteenth century. Moreover, the use of brewery byproducts as animal feed, while it echoes the principle of traditional rural thrift, was not without its critics in the urban setting, both on sanitary and on moral grounds; in the new ecosystem of the city, the distinction between beneficial byproducts and dangerous waste was still being worked out, as indeed it still is today. At the Boston Insane Hospital, current medical opinion would have carried much weight in nurturing the physical as well as the mental health of residents and staff.

This intertwining of tradition and innovation is illustrated further by the use of mangel-wurzel, mentioned above as one of the fodder crops. A beet with high sugar content that is fit for both animal and human consumption, mangel-wurzel has been cultivated in Germany and Eastern Europe since the 1500s, but it was introduced to the British Isles only in the late 1700s by "scientific" farmers searching for the best crops for large-scale sheep and dairy production. Articles promoting its use began appearing in American agricultural periodicals early in the next century; for example, in 1823, *The Boston Farmer* reprinted an essay from an English periodical describing the use of mangel-wurzel as fodder for sheep. By the late nineteenth century, it was a significant fodder crop in Nova Scotia, where some of the future immigrants to Pierce Farm may have learned to grow it.

As with most crops, the proper cultivation and use of mangel-wurzel required an understanding of its particular qualities and needs. In order for the root to be digestible to animals, the plant required an extended maturation period (ideally in cold temperatures) for the sugars to ripen and cellular matter to begin breaking down—which farmers achieved by first cutting off the leaves and stalks and then banking them in rows on top of the partially exposed roots, leaving them in the fields until midwinter. Along with its convenience—it demanded less labor and attention than most crops, and no indoor storage, during the busy harvest season—mangel-wurzel's long maturation period had the additional benefits of protecting the soil over the fall and winter and affording nutritious fodder in the late winter and early spring, when other feed was running low. Because of the particular nutritional properties and potential digestive challenges of the plant, mangel-wurzel was best fed in

combination with other feeds; when used properly, it was thought to promote growth in young animals and increase milk production, among other benefits. Whether these ideas and techniques came through firsthand experience or intellectual study, head farmer White and his workers must have contributed their own skills and dedication to making mangel-wurzel a successful and useful crop at Pierce Farm.

Along with the cows, pigs, and chickens, another kind of animal was essential to the life and work at Pierce Farm—horses. Most of the horses at the farm in 1908 were purchased from L. H. Brockway, a prominent horse dealer with stables on Portland Street in Boston. Living on the farm for far longer than most of the hired workers, the horses were known by name and personality, and undoubtedly knew the personalities of the workers and of the land itself in their own horsey ways. The workers who knew the horses best, the stablemen, tended to be stable employees (forgive the pun) as well: James L. Tupper, an English-speaking Canadian born in 1855, was employed by the hospital as stableman from around 1897 through 1905; his successor, John F. McKay—again from Canada but Scottish-speaking, born in 1880 and immigrated in 1903—began as a

#### Horses at Pierce Farm in 1908

<i>Name</i>	<i>Age</i>	<i>Acquired</i>
Jack	18	April 1895
Spencer	20	April 1896
Fan	16	December 1897
Harry	19	April 1896
Boy	15	March 1898
Jerry	15	March 1898
Peggy	16	March 1898
Nellie	15	February 1898
Mollie	15	April 1901
Dolly	11	March 1902
Dandy	10	April 1903
Bessie	11	April 1903
Fred	7	November 1906
Dick	6	November 1906
Dan	20	November 1906
Bobby	5	March 1907
Starlight	7	April 1908

farm attendant in 1905 and then served as stableman until 1910. Under Tupper's and McKay's care and guidance, Jack, Boy, Fan, Dolly, Starlight, and the other horses helped the farmers to plow, plant, and harvest, as well as to transport equipment, material, and people for the farm and for the rest of the hospital. In myriad ways, workers, residents, land, crops, and animals were inextricably connected, and all essential to the life of the institution as a whole.

The outdoor employees, working residents, and horses of Pierce Farm even helped to create more land for the hospital, draining a portion of the wetlands and claiming them for agriculture. In 1899, according to the Annual Report, "Seventeen acres of meadow were plowed and sown to grass and turnips. The brook and tributary ditches were cleared, and as a result 1,523 bushels of turnips were raised on this land." And the following year, "The work begun on the meadow was pushed the past summer under the favorable conditions of a dry year. The brook was straightened and widened," this and other work "furnishing considerable labor for patients." As we shall see in later chapters, this work of claiming the wetlands and dealing with surface drainage continued for many years (especially after purchase of the marshy Morton property in 1902), involving the labor both of hospital residents and staff and of Boston Sewer Department employees.



8.6. Hospital residents and supervisors working on farmland, around 1900. Much of the claimed wetland in the background is now covered over by American Legion Highway. *Courtesy of the Special Collections Department, State Library of Massachusetts.*

Along with farmwork, the residents at Pierce Farm contributed to the overall care of the land upon which they lived. Beginning in 1899, “Under the direction of a landscape gardener a number of trees and shrubs were purchased, and set out on the grounds of the Men’s department. We are indebted to the Park Department for several trees and shrubs used here.” This work continued the following year, along with clearing old lots of brush and rocks and laying down stone walkways around the buildings.

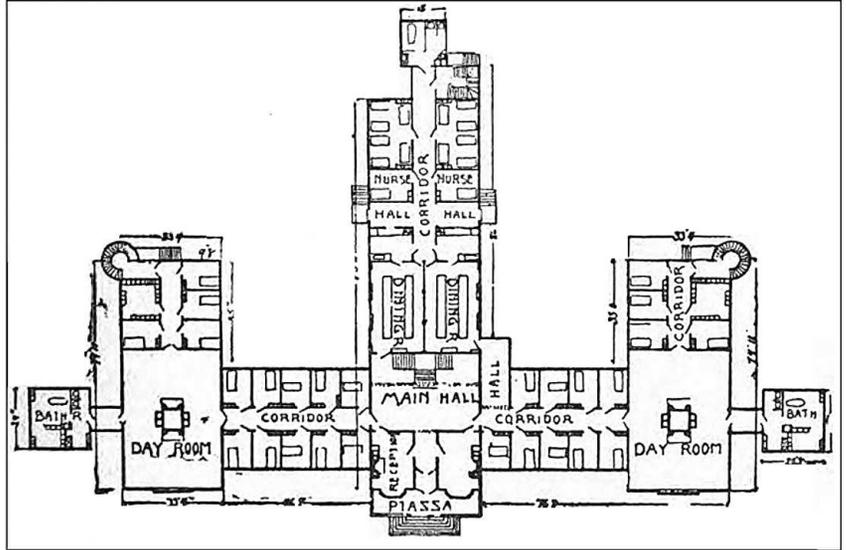
In 1907, a new task was set before them, one with which the rest of Massachusetts had been grappling for years: “Last fall for the first time shrubs of both departments were severely infested with the eggs of the gypsy and brown-tail moths. The work of destroying those eggs has been carried on through the fall and winter; more work will be done in the spring, and from this time forward we shall have this work added to the regular farm work.” In all, the residents of both Pierce and Austin farms were active participants in the creation of a livable and productive environment. We can only hope that the philosophy of moral treatment was correct in suggesting that their labor also gave residents a sense of dignity and accomplishment and helped them to cope with whatever troubles brought them to the hospital.

While work was an important element of life at Pierce and Austin Farms, residents were given opportunities for relaxation as well. Much of their recreation was indoors: billiards and cards for the men, sewing and drawing for the women; reading matter, some supplied by the

Boston Public Library and the Hospital Newspaper Society; a number of parties and evening entertainments, often arranged by the Dorchester Women's Club. In addition, as much as possible residents were encouraged to get outdoors, both for physical and mental health. Indeed, the stone walkways that the residents laid down were for their own use as much as for the staff. And sometimes residents were able to go farther afield: "During the summer [of 1900] several picnic parties were made up and enjoyed a day in the woods in some of the many beautiful resorts in the park system around us. Having more horses it was possible to give the patients more drives than we had been able to do before."

What did all this work and activity mean to the residents? It's hard to tell, at this distance; moreover, as explained in the Preface, in this book we have chosen not to explore in any detail the lives of particular residents, for reasons of confidentiality and respect of privacy. But a photograph of a resident's room published in 1900 is illustrative. Before we consider that photograph, it is important to note that during this period, many residents lived in single rooms. The plans for the Pierce Farm buildings show that most rooms originally were

intended as singles, with two small dormitories on each floor for patients needing closer supervision. To be sure, after 1900 the buildings often exceeded their official capacity of 168 residents, but that still regularly left 60 to 100 residents in single rooms and most of the rest sharing a room with only one other person.



8.7. Plan of first floor of one of the Pierce Farm buildings. Note that most rooms have one bed each, except for the two multiple-bed dormitories toward the end of the middle wing (near the nurses' stations). From *American Journal of Insanity* (July 1893).

Thus, the residents of Pierce Farm had more privacy and more ability to shape their own surroundings than we might usually assume would be the case in a mental facility. And the photograph on the next page suggests that individuals did indeed personalize their rooms to express themselves and their own values and tastes—with the natural world playing an important role. In a practice common to many Americans in the nineteenth century, and

today, hospital residents brought bits of the outdoors inside, using items encountered in nature such as cattails, leaves, and dried corncoobs to beautify and individualize their institutional rooms. They may have collected these natural objects themselves, on a walk around the hospital grounds or an excursion to a nearby park, or the adornments from outside might have been given to them by family or friends who came to visit. However they got them, these objects helped to tie the residents to the larger world, both human and natural, beyond the doors of the institution.

It is important not to idealize the lives of the residents of the Boston Insane Hospital; whatever brought them to Pierce and Austin Farms, they faced many hardships and challenges before, during, and after their stay at the institution, often with few resources to help them. For at least some of them, though, one such resource came in the form of an invigorating relationship with the natural world. Whether indoors or outdoors, at work or at play, these residents experienced nature as an essential part of everyday life, a place of personal meaning and healing, and a common good to be shared with the community.



8.8. Resident's single room at Pierce Farm, sometime before 1900. *Courtesy of the Special Collections Department, State Library of Massachusetts.*

## An Expanding Institution

At the beginning of the twentieth century, the Commonwealth of Massachusetts assumed full responsibility for its mentally ill citizens and began a dramatic expansion of its facilities to meet the challenge. Thus, on December 1, 1908, the Boston Insane Hospital came under state control and was renamed the Boston State Hospital. At that time, the hospital was almost at capacity, its 764 beds being filled with 748 residents—306 men and 442 women. However, this accounted for only about 15 percent of the mentally ill patients from the metropolitan area, the rest being cared for in other, more distant institutions of the state system. In order to provide care for these patients closer to home, the Boston State Hospital would need to expand its capacity to accommodate at least 2,000 residents, along with needed staff and support services.

In order to lay the groundwork—literally—for this expansion, the nagging issue of Canterbury Brook had to be dealt with. As we saw in the previous chapter, from the end of the 1890s on, the hospital attempted to improve the surface drainage of the area by cleaning and straightening the brook, which also allowed them to claim portions of the marsh for agricultural usage. During these same years, the city of Boston was cooperating with the Commonwealth and a new regional entity, the Metropolitan District Commission, in implementation of a comprehensive plan for the entire metropolitan area, featuring separate systems for sewerage and for surface drainage.

As part of this plan, a major sewer line—the Talbot Avenue High-Level Sewer—was constructed across the grounds of the Men’s Department between 1905 and 1907, connecting the neighborhood of West Roxbury to the west with Dorchester to the east. Along those sections of the sewer not on hospital grounds, surface water from Canterbury Brook was redirected underground through a separate conduit alongside the sewer. On the grounds of the hospital, however, only the high-level sewer was installed—Canterbury Brook continued to flow through the wetlands as before. As might have been predicted, the concentration of

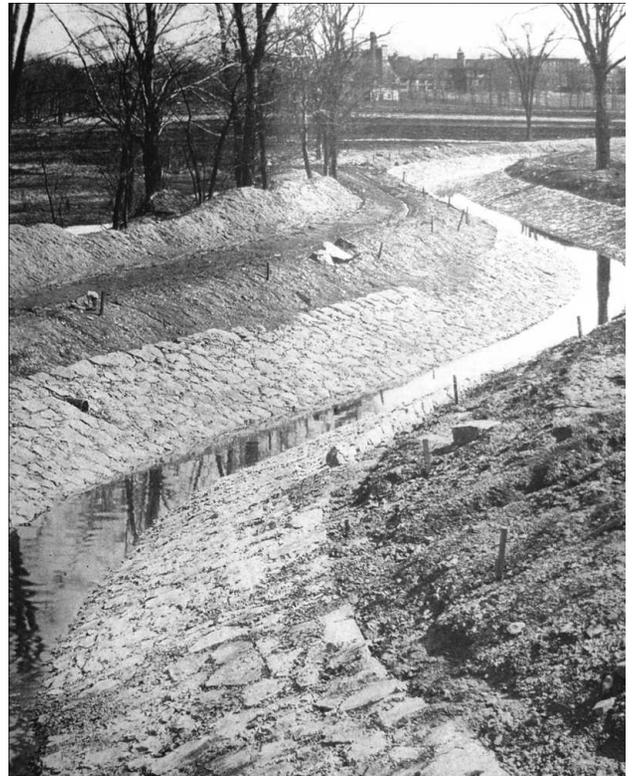
surface water through the conduits both above and below the stream from the hospital only led to increased flooding on hospital grounds, precisely at a time when more dry land was required both for farming and for building construction.

After the state takeover of the hospital in 1908, provision was made for the municipal sewer department to undertake a more thorough dredging and rechanneling of the brook than the hospital itself could accomplish. In this process, a large portion of the channel of the brook was moved some 250 feet to the north, near the underground sewer line that had been put in a few years before. At the same time, the brook was given a more curving and aesthetically pleasing course, reversing previous efforts—from Arthur Austin's day on—to straighten the channel. (These changes are shown in Color Plate 5, above.) Thus, today, the "natural" appearance of the brook is actually the result of a series of drastic human interventions, from the middle of the nineteenth century to the beginning of the twentieth.

Although the work on the brook was performed by city employees and contractors, it set the stage for increased work on the part of farm workers and hospital residents as well. As the hospital's Annual



9.1. Just east of Austin Farm in Dorchester, Canterbury Brook was made to flow underground through the large conduit in the upper right, parallel to a smaller sewer line (lower left). *From Street Department Annual Report, 1906.*



9.2. The rechanneled brook, looking toward Morton Street and Austin Farm. *From Street Department Annual Report, 1912.*

Report noted in 1910, "The sewer division of the city street department is completing the work begun last year of deepening and widening the brook channel through the hospital property, which will render possible the effective drainage of our lowland and bring a large area of marsh under cultivation. The farmer has men and teams at work now clearing this land and laying drains." Workers and residents used the piles of soil and rock left alongside the new brook to fill in the old watercourse, to raise up low areas, and to fill in the wetland, putting about forty new acres under cultivation over the next four years.

With the new farmland and an expanding population, the agricultural activity of the hospital increased over the first few years of state control. In 1909, the farm and garden produced the same broad range of fruits, vegetables, grains, dairy, and fodder as before, valued at \$27,994; of this, milk remained a particularly important commodity, 189,669 quarts

PUBLIC DOCUMENT — No. 84.

BOSTON STATE HOSPITAL.

[Dec. 1910.

GARDEN PRODUCTS.			
Asparagus, 8 boxes, . . . . .	\$36 00	Apples, 91 barrels, . . . . .	\$273 00
Beans, shell, 21 bushels, . . . . .	26 25	Currants, 629 boxes, . . . . .	69 19
Beans, string, 182 bushels, . . . . .	136 50	Pears, 23 bushels, . . . . .	40 25
Beets, 165 bushels, . . . . .	99 00	Plums, 180 boxes, . . . . .	54 00
Beets, 47 bunches, . . . . .	2 35	Raspberries, 53 boxes, . . . . .	10 60
Beet greens, 210 bushels, . . . . .	73 50	Strawberries, 2,225 boxes, . . . . .	222 50
Cabbage, 6,750 heads, . . . . .	270 00	Cherries, 26 boxes, . . . . .	2 60
Carrots, 164 bushels, . . . . .	98 40		
Cauliflower, 50 boxes, . . . . .	50 00	Total, . . . . .	\$6,731 16
Celery, 130 boxes, . . . . .	130 00		
Corn, green, 862 bushels, . . . . .	646 50	FARM PRODUCTS.	
Cucumbers, 3 boxes, . . . . .	4 50	Ensilage, 200 tons, . . . . .	\$1,000 00
Dandelions, 6 bushels, . . . . .	4 50	Fodder, green, cabbage, 22 tons, . . . . .	110 00
Egg plant, 1 barrel, . . . . .	2 50	Fodder, green, corn, 30 tons, . . . . .	150 00
Kale, 37 bushels, . . . . .	11 10	Fodder, green, clover and alfalfa, 164 tons, . . . . .	1,148 00
Kohl-rabi, 15 bushels, . . . . .	7 50	Fodder, green, millet, 30 tons, . . . . .	150 00
Lettuce, 451 boxes, . . . . .	338 25	Fodder, green, oats, barley and peas, 58 tons, . . . . .	290 00
Mangel-wurzel, 400 bushels, . . . . .	100 00	Fodder, green, rye, 25 tons, . . . . .	125 00
Onions, 31 bushels, . . . . .	26 35	Hay, English, 224 tons, . . . . .	4,704 00
Parley, 6 bushels, . . . . .	3 00	Hay, meadow, 26 tons, . . . . .	260 00
Parsnips, 108½ bushels, . . . . .	108 50	Rye straw, 2 tons, . . . . .	48 00
Peas, 46½ bushels, . . . . .	46 25	Rowen, 4 tons, . . . . .	48 00
Pepper grass, 22 bunches, . . . . .	44	Beef, 3,821 pounds, . . . . .	267 47
Peppers, 2 bushels, . . . . .	1 50	Milk, 191,409 quarts, . . . . .	11,484 54
Potatoes, 3,133 bushels, . . . . .	2,193 10	Pork, 18,469 pounds, . . . . .	1,846 90
Potatoes, small, 120 bushels, . . . . .	18 00	Ice, 800 tons, . . . . .	2,400 00
Pumpkins, 1,178 pounds, . . . . .	35 34	Sale of condemned cows, hides, calves and tallow, . . . . .	554 19
Radishes, 220 dozen, . . . . .	55 00	Sale of condemned hogs, pork trimmings, etc., . . . . .	334 78
Rhubarb, 6,360 pounds, . . . . .	127 20		
Spinach, 174½ bushels, . . . . .	69 80	Total, . . . . .	\$24,920 88
Squash, winter, 160 barrels, . . . . .	240 00		
Squash, summer, 6 barrels, . . . . .	6 00	Garden products, . . . . .	\$6,731 16
Scullions, 3½ bushels, . . . . .	2 44	Farm products, . . . . .	24,920 88
Tomatoes, ripe, 758 bushels, . . . . .	568 50		
Tomatoes, green, 61½ bushels, . . . . .	30 75	Total, . . . . .	\$31,652 04
Turnips, white, 256 barrels, . . . . .	320 00		
Turnips, ruta-baga, 136 barrels, . . . . .	170 00		

valued at \$9,483. The next year, farm production climbed to \$31,652, and it went on to hit \$33,061 in 1912.

Once again, the federal census of 1910 gives a snapshot of the workers behind these statistics. Although Louis White and Freeman McKenna remained at the helm—with special positions for a gardener, a stableman, and an assistant farmer—certain characteristics of the farm laborers had changed in interesting ways compared to those we met in the previous chapter. There was still a large percentage of young Canadian immigrants of Scottish descent, but they were now largely native English-speakers; moreover, there were almost as many workers from Ireland and one from Scotland, most of them in their late twenties or older. A single New Englander rounded out the farm laborers—older, and widowed (as was one of the Irish immigrants). Perhaps most striking, while in 1900 only two of the nine farm laborers listed in the census stayed for more than a year (each for only two years), by 1910 almost half of them stayed for two, three, or four years. Overall, the workers at Pierce Farm in 1910 were somewhat older, more stable, and perhaps more mature than ten years previously—though it's not clear whether this was because Pierce Farm had become a more attractive place for long-term employment or because of larger-scale trends in the agricultural labor force in the state or nation, or perhaps for other reasons.

Moreover, the character of the farm work itself began to change over the decade, moving away from some of the traditional, sustainable practices that we saw in the previous chapter and toward something more like modern, industrial agriculture. Rather than being imposed by some master plan, this shift occurred slowly, as a series of responses to particular events at Pierce Farm in the context of broader trends within agriculture and society. One important first step began with the dairy herd. Starting in 1911, the Annual Report noted the

### **Workers at Pierce Farm in 1910**

*"b." = birth year; "imm." = immigration year*

- William S. Martin, 22, gardener  
*b. 1888, England, imm. 1908*
- John F. McKay, 30, stableman  
*b. 1880, Canada (Scottish), imm. 1903*
- Robert W. Seary, 33, assistant farmer  
*b. 1877, Canada (English), imm. 1903*
- Peter Boyle, 27, farm laborer  
*b. 1883, Scotland (English), imm. 1909*
- Francis J. Brennan, 26, farm laborer  
*b. 1884, Ireland (English), imm. 1907*
- Philip A. Brown, 24, farm laborer  
*b. 1886, Canada (English), imm. 1909*
- Stephen Clifford, 28, farm laborer  
*b. 1882, Ireland (English), imm. 1904*
- Weston L. Davis, 33, farm laborer  
*b. 1877, Maine; widowed*
- Murdock Finlayson, 21, farm laborer  
*b. 1889, Canada (English), imm. 1909*
- Frank E. Hunter, 24, farm laborer  
*b. 1886, Canada (English), imm. 1908*
- James Lawler, 49, farm laborer  
*b. 1861, Ireland (English), imm. 1881; widowed*
- William M. McAuly, 22, farm laborer  
*b. 1888, Canada (Gaelic), imm. 1910*
- Daniel McLean, 22, farm laborer  
*b. 1888, Canada (English), imm. 1907*
- Andrew P. Powers, 24, farm laborer  
*b. 1886, Ireland (English), imm. 1909*

increasingly old and unsanitary condition of the farm buildings, predicting that without new facilities the productivity of the farm would suffer. In 1913, in fulfillment of that prediction, the cows once again were hit with tuberculosis, and the swine with cholera; by 1915, the dairy herd was completely “disposed of,” never to be reinstated. Without the cows, the farm had much less manure with which to fertilize the crops, and increasingly had to purchase fertilizer from off-site sources. Having spent \$183 and \$225 on fertilizer in 1911 and 1912, respectively, after the tuberculosis crisis the farm's fertilizer expense more than doubled, to \$475 in 1915 and \$512 in 1916. Interestingly, though, the biggest jump in fertilizer expenses occurred a few years later, up to \$1,791 in 1920—which probably indicates that the farm was beginning to use the new, chemically produced fertilizers that became available after World War I. At the same time, other kinds of decisions were being made in response to the loss of the dairy herd, including an increase in pork production (from a value of nearly \$3,000 in 1913 to about \$10,000 in 1917). As the farm tried to help feed an ever-increasing population, total productivity climbed back up to a high of \$34,415 in 1917 (reflecting inflated wartime prices) before falling below \$20,000 into the 1920s.

<i>Year</i>	<i>Farm Produce</i>	<i>Fertilizer Purchased</i>
1910	\$31,652	\$153
1911	\$27,679	\$183
1912	\$33,062	\$225
1913	\$32,449	\$292
1914	\$23,676	\$253
1915	\$23,930	\$475
1916	\$19,057	\$512
1917	\$34,415	\$543
1918	\$27,144	\$759
1919	\$19,396	\$1,402
1920	\$18,425	\$1,791

During these same years, in accord with the expansion plans noted above, a number of new buildings were constructed on hospital grounds. The first of these was a large building for 300 patients referred to as an “infirmery,” i.e., a facility designed to care for the physically infirm, whether from old age, disability, or accident. Opening in 1912, with wings for male and female residents, the infirmery building ended the geographical separation of the genders on the hospital grounds. Thus, the area previously referred to as Pierce Farm or the Men’s Department became the West Group, while Austin Farm/Women’s Department became the East Group, both of them housing both male and female residents.

As with the wetland draining and farming, building construction involved significant work for employees and residents, who in 1911 were responsible for (among other tasks) “laying 237 yards of granolithic pavement and walks; laying 222 feet of 6-inch pipe for new water supply to Stedman and Walker buildings [in the East Group]; laying sewers, grading and roadmaking around the new buildings; [and] planting 140 trees.” In some of this work, they may have received direction from Arthur A. Shurcliff, a prominent landscape architect who was consulted for advice on the landscaping and plantings around the new buildings. As future administrators would bemoan, however, neither Shurcliff nor anyone else was ever hired to devise a comprehensive plan for the hospital’s architecture and landscape, leaving individual buildings and sites to be designed in differing styles, as the need arose.



9.3. The 1912 infirmary (later renamed Building B), located just west of where the current George Robert White Environmental Education Center is today. *From the 1919 Annual Report.*

As before, all of this labor continued to be regarded as an essential part of the therapeutic approach of the hospital (by doctors and administrators, at least). The Annual Report for 1911 stated, “Much has been accomplished toward bettering the condition of both buildings and grounds. Every male patient who could be gotten out of doors has been given such work as he has been able to do, and the combined efforts of all have been of great assistance. The State has benefitted, and still more the patients themselves, who, if not cured, have in many instances gained in both mental and physical condition.”

While we may take such official statements with some level of scepticism, there are indications that at least some residents did gain certain benefits from the hospital's emphasis on work and outdoor activity. For example, after the infirmary building was completed in 1912, among the next buildings to be constructed were two small cottages and a dormitory for those residents who worked on the farm, who “should live near their work, and be allowed liberty and privileges not possible for other and sicker patients.” Aside from such special privileges for workers, the hospital seems to have had a broader policy of granting to certain residents a significant measure of freedom within the hospital grounds, according to a passage from the 1911 Annual Report.

Nineteen male patients eloped, all of whom, with one exception, were returned to the hospital or else accounted for at home and allowed to remain there. That more do not

leave without permission speaks well for the parole and open-door system which is practiced here on a large scale, more than 20 percent of the men being given parole on the grounds. Of 30 who slept in tents all summer with no special supervision, not one absconded.

Two years later,

The privilege of parole on the grounds and residence in open wards, long enjoyed by male patients for whom this degree of liberty is practicable, has this year been extended to the women of corresponding type. Two wards containing 60 convalescent, semi-convalescent, and mild, chronic patients now have their doors unlocked from morning till night, and the patients go out and in at will, enjoying the unrestricted use of the pleasant grounds adjoining and deriving unmeasured satisfaction from the removal of irritating, and as the event proves, unnecessary supervision.

The number of residents given parole on the grounds stayed at these levels for several years, though by the 1920s it fell to below 10 percent of the total population—still a significant amount of freedom and responsibility, given our latter-day notions of mental institutions.

Sometime near the end of the 1910s, this use of outdoor activity as a way to accord respect and responsibility to hospital residents culminated in a special program whereby certain residents were actually hired as formal employees, complete with job designations and wages. Accordingly, in the 1920 federal census, a number of people living at the hospital were listed both as "patients" and as workers in a variety of positions, allowing us another rare glimpse into some aspects of their lives. Of the twelve residents listed in the census as having been employed as farmhands or teamsters at Pierce Farm, seven were from Massachusetts, three were English-speaking immigrants from Canada and Ireland, and two were from Italy. Their average age was just over 40, and two were listed as married. Presumably, all of them had proven themselves as good farmworkers before being employed under the special program; interestingly, comparison with census data from other years shows that four of them had been residents at the hospital for at least ten years, giving them long-term stability and accumulated knowledge that they then contributed to the farming operation as employees. Although the special employee program stopped after a few years, seven of the twelve resident-workers in 1920 were still residents in 1930, and some of them probably continued to work on the farm after the program had ended. The remaining five resident-employees seem to have had shorter stays at the hospital, leaving within a few years after 1920; although we don't know what became of most of them afterward, it's reasonable to think that the experience of working on the farm helped them both on psychological and on practical levels to face whatever problems had brought them to the hospital and to move back

into the world. Indeed, one of them was hired back as a regular employee at Pierce Farm after his discharge from the hospital, suggesting that his experience at the farm was positive enough that he would choose to stay there for the next five years of his life.

By 1918, the West Group had capacity for 1,166 residents and the East Group for 588, for a total of 1,754—and in fact the hospital's population that year was 1775 (793 men and 982 women). Another infirmary building, completed in 1920, added accommodations for 338 more residents, bringing the institution's capacity to 2,092.

Although the 1910s were a period of expansion for the hospital, the 1920s were a time of relative stagnation, largely because of the state legislature's refusal to appropriate funding for significant new construction. Rather, old buildings were repaired and remodeled, while the patient population only increased: from 1,826 residents in 1920; to 2,176 in 1925, thus exceeding the hospital's official capacity; to 2,262 residents in 1930. To get a fuller picture of the activity on the hospital grounds, consider that in 1925, in addition to the residents, the hospital housed most of its 409 employees; moreover, on many days the hospital saw 800 or 900 visitors (the maximum being 1,129)—which means that there were usually between 3,000 and 3,500 people at the site on any given day!

With such a human presence it is not surprising that, as early as 1920, hospital leaders foresaw a day when facilities for up to 5,000 residents might be needed. On the one hand, this would require that any new construction feature fewer single-room accommodations and more multi-bed dormitories, thus fitting more residents into a smaller space and reducing the number of employees needed for direct supervision. On the other hand, the expansion of facilities would reduce the amount of land available for agriculture. Indeed, throughout the 1920s the Annual Reports stated that compared to other state institutions, the Boston State Hospital's population was already large for its size, and foresaw a day when the entire site would be required for buildings and recreational uses, leaving no room for the farm, which ideally would be relocated to a new site outside of the city. However, no such expansion either of buildings or of land could occur in the absence of funding from the state legislature, and the footprint of the hospital remained substantially the same over most of the 1920s.

On one front, however, the hospital was able to move forward during the decade: dealing with the wetland. Even after Canterbury Brook was rechanneled in 1913, it seldom completely handled the surface water flowing through it, and so flooding was a regular problem, periodically bringing the claimed farmland back to its marshy roots. Beginning in 1916 and continuing throughout the 1920s, the hospital called on the city of Boston to alleviate the problem—most simply by cleaning out the vegetation and debris that blocked the channel, but preferably by putting the brook in a conduit underground, as had been done back in the 1910s to those parts of the brook located off the hospital grounds. In 1919 and again in 1926, the city responded by cleaning the waterway, which helped in the short term but was not a final solution.

Beginning in 1921, the hospital took things into its own hands by choosing a different approach, that of simply filling in the wetland. The process began in the East Group, draining the ponds and filling them with materials supplied by a local contractor, including ashes collected from the homes and businesses of Dorchester and refuse and soil from recent work on Blue Hill Avenue. By 1927, according to that year's Annual Report, the project had been moved across Morton Street to the low and marshy lands of the West Group: "The work of filling in the area west of Morton Street and north of the Canterbury Branch of Stony Brook has been completed and the contractor is now dumping ashes on the land south of [Canterbury] Brook and west of Morton Street." The following year, work shifted down the west side of Morton Street toward Harvard Street, and in 1929 the project of filling in the area was declared completed.

That year, the state legislature finally approved money for the construction of a new Administration Building to be located between the West and East Groups, just west of the corner of Morton and Harvard Streets—precisely where the landfill work had just been completed. The new building was completed the following year, at which time construction was begun on a new reception building in the West Group.

Of course, for the Boston State Hospital as for the rest of the country, the decade of the 1920s ended with the financial crash of 1929, ushering in the Great Depression of the 1930s. In an effort to stimulate the economy, the federal government poured huge amounts of money into public works projects throughout the land, an approach that soon would unleash another construction boom at the hospital.

The initial impact of federal funding came in an unexpected form: the construction of American Legion Highway. As described with seeming surprise in the Annual Report for 1930, "Preliminary surveys for the laying out of this highway have been made by the Public Works Department and it has brought to light the fact that they propose to run this highway through the grounds of the Boston State Hospital. Neither the Department of Mental Diseases nor the Trustees of the hospital had any knowledge of this action prior to the survey referred to." While one possible route for the highway would destroy some hospital buildings, the alternate route, though preferable, still "would divide up our land in a very undesirable way." Powerless to stop it, the trustees could only bemoan what they considered the excessive width of the highway, and end ruefully: "It would seem that there should be some provision in the law to prevent running a public highway through a hospital without a hearing."

The following year's statement on the matter, while still powerless, was at least more firm and indignant: "It is almost inconceivable that such a thing should have been done without the hospital authorities' being consulted. No opportunity was given to enter a protest against any such highly undesirable invasion of the hospital property." When the highway was completed in the summer of 1932, the hospital could only count its valuable land lost to the project—1.157 acres in the East Group and 10.7 acres in the West Group, not to mention the

decreased access to land on the other side of the busy highway. Sadly, most of the lost land was good farmland that had been laboriously claimed from the original wetland by the work and sweat of the hospital employees and residents themselves over the previous thirty years.

Soon, though, the hospital itself reaped the benefits of federal money, as the state legislature was finally able to respond to the repeated calls for appropriations for more construction. When federal aid began flowing in 1933, the floodgates were open: by 1935, on the West Group alone, construction was nearing completion on “a laboratory and mortuary building, a building for tuberculous patients, a building for 200 male employees, a building for the West office and 87 female employees, [and] 3 officers’ cottages”—these last buildings being the three brick cottages still in existence and in use by the BNC today, along Oak Street. Along with the new buildings—and badly-needed repairs and renovation of older ones—the hospital also gained the physical infrastructure necessary to tie them together into a unified, modern institution: roads, walkways, lighting, landscaping, new or improved



9.4. Detail of United States Geological Survey aerial photograph, December 15, 1938. *Reproduction courtesy of the United States Geological Survey.*

facilities for electricity and heat, fire escapes and a sprinkler system for fire protection, and an iron fence encircling it all.

In the midst of all this building, the brook and wetlands remained a problem. Despite the hospital's best efforts to fill the wetland during the 1920s, continued periodic flooding of Canterbury Brook (and probably subsurface waterflow as well) seems to have allowed the marsh to return to some extent. The hospital continued the struggle, as indicated in the Annual Report for 1937: "Although in the past year, a large amount of fill was dumped into the swamp lands on the hospital property, there is still a large amount of swamp land remaining. This swamp breeds enormous numbers of mosquitoes and is exceedingly unhealthy for the patients. The purchase of enough fill to completely eliminate this waste land is highly advisable." Though the struggle was not over, the absence of marsh visible in an aerial photograph in 1938 suggests that the hospital had gained the upper hand.

All this construction and change forced Pierce Farm into an increasingly marginal position, even as it continued to provide food for the hospital and work for some of its residents. After the retirement of head farmer Louis White in 1919 (after twenty-four years of service), the position was filled by a series of shorter-term employees—John D. Tilton (1919–20), Lawrence J. Olsen (1920–26), and James V. David (1926–28)—before the hiring of Ralph B. Littlefield in 1928. Born in 1904 in Salem, New Hampshire, Littlefield had graduated from the University of New Hampshire with a B.S. in agriculture in 1927, and was only 22 years old when he became head farmer at Pierce Farm the following year. Littlefield and his new wife, Muriel (also a UNH graduate), settled into life at Pierce Farm, living in hospital housing at 474 Canterbury Street and having their daughter Nancy in 1933. Given his academic training (and his subsequent career as agricultural extension agent for UNH), it's probable that Littlefield continued the transition toward a more modern way of farming suggested above, though the lack of detailed records makes it impossible to point to any specific changes during this period. For the rest of the outdoor employees, the federal census of 1930 suggests a continuation of the trends that we identified above in 1910: the workers were older, more mature, and stayed at Pierce Farm for longer periods than before. While a large percentage were still immigrants from Canada (all English-speaking), they now had an average age of 39, while three New Englanders and one immigrant from Ireland were even older, averaging 47 years old. Five of the nine were married, divorced, or widowed. Only three of the nine worked at Pierce Farm a year or less, while the others stayed for an average of eight years. One imagines that these experienced workers had something to teach their new head farmer both about the land and about life, at the same time as they were invigorated by the youthful energy that Ralph and Muriel brought to the farm.

However, as envisioned years before, the dramatic expansion of hospital facilities during the 1930s was at odds with the continued use of land for farming. Because of the land and labor taken up by the construction of the new highway and buildings, the hospital's

agricultural activity declined over the 1930s. In 1931, almost 132 acres of farmland produced crops and meat worth \$19,262; in 1933, after construction of American Legion Highway, 120 acres produced \$12,394; and by 1935, the numbers were 110 acres and around \$10,000 worth of farm products. The following year, the piggery was demolished, “the last pigs having been disposed of on October 19, 1936.” The next year’s Annual Report was terse and final:

Mr. Ralph B. Littlefield resigned as Head Farmer February 1937. Because it had been planned to abolish the farm at this hospital as of November 30, 1937, the position was not filled. A small quantity of farm products was raised. The value was \$2101.20. The farm was abolished November 30, 1937.

Without a head farmer, the remaining employees—all of whom had worked at Pierce Farm for at least ten years—tended the land this one last season, with hope and care enough to see the crops through to harvest. One of these employees was a former resident in his 60s, who had lived at Pierce Farm for over twenty years and who was moved to another job in the hospital when the farm closed; he died there the following March, and his brother buried him in the family plot in the graveyard of the rural Massachusetts town in which he had been born. That spring, with the workers gone, the fields at Pierce Farm were left untilled for the first time in almost 150 years. And since no separate farm was established at a different location, farm work was dropped from the list of therapeutic and practical activities offered to those citizens under the care of the Boston State Hospital. One wonders what the residents who had worked on the farm for years did that spring, without the familiar labor to engage their lengthening days.

By the end of the 1930s, the hospital’s footprint had reached its full extent. After this, a few major buildings would change and a few minor ones would be added, but the basic layout and physical extent of the institution would not be changed for the rest of its existence. As a result, the traditional natural elements of the landscape—agricultural fields, other vegetative cover, and wilderness in the form of the wetland—were almost completely eliminated from the site. Moreover, the landscaped walkways and lawns that remained were enjoyed by fewer and fewer of the residents, as the population grew older and more infirm, was more constantly supervised, and spent more time indoors.

Even then, the human need for connection with nature remained. In the Annual Report for 1939, sandwiched between comments on bathing facilities and the cafeteria, we find that “In July, 1939, 17,000 pine and Colorado spruce trees were planted.” The following year, “A Tree Pruning Project was employed in caring for the trees on the grounds of the institution.” From such beginnings, over the rest of the twentieth century the natural world—with human help—would slowly reclaim the site for fields, woods, and wetlands.

## Hospital, Garden, Sanctuary

**I**n 1951, the resident population at the Boston State Hospital hit an all-time high of 3,100—about 30 percent over the institution’s official capacity. However, over the next thirty years a combination of factors led to a dramatic decrease in the number of residents and to the hospital’s eventual closure. Most immediately, as the social stresses and strains of World War II and the Korean War faded, admissions to the hospital gradually decreased, and by 1956 the population was down to 2,854.

Further, that year new antipsychotic drugs came into widespread usage for the treatment of the mentally ill. Some four hundred hospital residents were put on one or more such drugs, and three hundred patients were the subjects of controlled research tests. In particular, thiorazine—developed in France in 1950—was used extensively in the treatment of schizophrenia, which by that time afflicted a large percentage of the hospital population. The Annual Report for 1957 records the use of 355,501 doses of thiorazine over the first year of its general use at the hospital. Deemed more effective than previous treatments such as electroshock and insulin shock therapies, thiorazine both lessened the hospital stay of new admissions and allowed the release of some long-term residents, thus reducing the total patient numbers.

Finally, beginning with a pilot program conducted by Boston University in 1960, the development of new methods of community-based care helped the mentally ill find alternative forms of treatment and support outside the hospital (including the use of the new drugs in clinical settings). This turn toward community-based care both reduced the number of admissions to the hospital and shortened the duration of stay of those who were admitted. In 1960, the resident population was down to 2,669—about the hospital’s capacity, after the opening of the 300-bed Medical and Surgical Building in 1956—and two years later it had dropped further to 2,322.

With the alleviation of chronic overcrowding, increased engagement with the natural

world on the part of both hospital staff and residents can be noted. After the damage caused by Hurricanes Carol, Diane, and Edna in 1955 and a major blizzard the following winter, new landscaping and tree planting were undertaken over large areas of the hospital grounds, and an evergreen nursery was established to provide trees for future plantings.

The Annual Report for 1957 noted with excitement, “The Department of Conservation, at our request, designed a picnic area on our grounds for patients. The skill demonstrated in the preparation of this plan opened up to us the vision of properly landscaped buildings and hospital grounds.” That vision of greenery was brought further into focus by the death of Mr. Henry Underhill, keeper of the hospital’s greenhouse, who “not only provided the hospital with flowers and plants, but made his influence felt in many ways, especially in his program of helping patients to recover. Richard Fournier, Mr. Underhill’s assistant for many years, has taken over the duties of the Greenhouse and East grounds and is doing a very good job.”

The Annual Report for 1958 reflected, “Hospitals that do not have farms have great difficulty in reaching the standards of grounds care that is reached by those who do. Progress in improved grounds appearance, however, was significant during the year.” Two years later, the hospital proudly proclaimed that its “grounds have been improved with the planting of new trees and shrubs and adorned with additional flower beds,” noting the planting of a row of Oriental planetrees (related to the American sycamore) for shade around the tennis courts (now the BNC parking area) and the greenhouse’s production of “900 bunches of cut flowers and 3,800 plants and annuals that were distributed to the wards and buildings.”

The next year, greenhouse output increased to 2,400 bunches of cut flowers and 7,000 plants for transplanting. And by 1962—the year of the publication of Rachel Carson’s *Silent Spring*—the hospital showed a basic ecological awareness that the state of its own environment was connected to that of the outside world: “The litter that disturbs us is a reflection of a national problem that exists in Boston and in other major cities in the United States. A prolonged city wide campaign against littering would help the same problem at the state hospital.”

Moreover, this renewed interest in planting and greenery was felt among hospital residents as well, as noted in 1955.

The small gardens of various O.T. [occupational therapy] groups have provided a worthwhile enterprise where used. We are beginning to handle this project better in respect to benefit derived by the patient through recognition of the fact that this activity seems to be most valuable to the patient unable to express aggressive feelings. We recognize that gardening could be used more extensively; things standing in our way are facilities; the fact that all personnel cannot be expected to be enthusiastic for the activity and implementation of the activity within the existing program.

Over the next few years, special gardening projects were undertaken by a number of O.T. groups throughout the hospital, including converting an unused room to a greenhouse in G Building and beginning a patient-run garden in H Building (both on the West Campus).

By 1960, garden produce was beginning to be served at meals—for the first time since the farm was abolished in 1937—and the institution was considering the use of residents as paid employees of the grounds department. Later in the decade, an aerial photograph suggests that by that time much of the old farmland along Walk Hill and Canterbury streets had been put back into cultivation, probably both by the grounds department for its landscaping needs and by the residents for gardening.



10.1. Aerial photograph of part of the West Campus of Boston State Hospital in 1967. The large modern building in front is the Medical and Surgical Building (1956), while the low building on its left is the even newer Service Building (1963), construction of which involved leveling the land that is now the large meadow near the entrance to the BNC. Note also the extensive section of cultivated land on the far left side of the photo and the returning vegetation and wetland at the top. *Courtesy of the Massachusetts Archives.*

However, even as the land was being cared for once again, the hospital itself was nearing its end. Throughout Massachusetts and the nation, the same forces that had contributed to decreasing hospital populations in the latter half of the 1950s—the emergence of psychotropic drugs and the turn toward community-based care—led in the 1960s to a widespread movement for total “deinstitutionalization,” i.e., caring for the mentally ill in community and clinical settings rather than in large-scale hospitals. By the end of the decade, the number of residents at the Boston State Hospital had decreased to under four hundred (although certain outpatient and community services continued to be offered at the facility).

But as the buildings were left empty and the grounds were abandoned, a new group of gardeners—nineteen families from the surrounding community—began making use of the fields that the hospital residents had left behind. In so doing, they were the pioneers in Boston of a new form of urban agriculture, community gardening—farming by and for the local community. Although various examples of urban farming (such as wartime “victory gardens”) had existed over the preceding century, it wasn’t until the late 1960s that local residents organized themselves to claim vacant land for agricultural purposes—putting the garden in the community as well as putting the community in the garden.

The original nineteen families soon grew to eighty, at which point the gardeners, led by North Carolina native Jim Clark, made a formal arrangement with the hospital authorities to establish what was then called the Boston State Hospital Community Gardens. By the early 1980s, according to some accounts, over 22 acres of hospital property were being worked, producing food for some five hundred families—and a priceless harvest of human warmth and community spirit. In a 2008 interview, Clark discussed the meaning of the gardens to local residents.

The garden club is more than just gardening to people, it’s everything. Place to go, place to come during the summer, to sit, from the projects—there are a lot of people living in the projects, and there aren’t many places to go [there] except for a stairway. You can’t sit on a stairway and get air. Here, you can come here in the garden, work your body, and sit here along the perimeter, and think you are anyplace in the world, including where you came from—North Carolina, South Carolina, Georgia, Alabama, West Indies, Brazil, Argentina, Canada—you can pretend, in that spot, overlooking the American Legion Highway—looks like a country road anyway—that you could be anywhere in the world. So it’s recreation, it’s educational, it’s healthy, it’s family—it’s real family oriented—it’s everything.

By 1985, the expanding wetland at the corner of Walk Hill Street and American Legion Highway had reduced the amount of usable land, limiting to three hundred the number of families served but without dampening the gardeners’ enthusiasm. At the end of the decade, the importance of the gardens to the community was well established. When Governor

Edward King proposed moving the gardens to toxic-laced land on the other side of American Legion Highway, over five thousand local citizens turned out in protest. The gardens stayed where they were.

Meanwhile, the number of residents remaining at the Boston State Hospital continued to dwindle, reaching two hundred at the end of the 1970s. Buildings were shuttered, employees were let go, and the flower beds, lawns, and trees of which the grounds crew were so proud in the early '60s were left to grow wild, tangled, and free. On December 6, 1980, the central heating plant of the hospital was shut down, effectively making the place uninhabitable, except for a few homeless people—some of whom may have been former residents with nowhere else to go. All of which raised the question: What should be done with the site in the aftermath of the hospital?

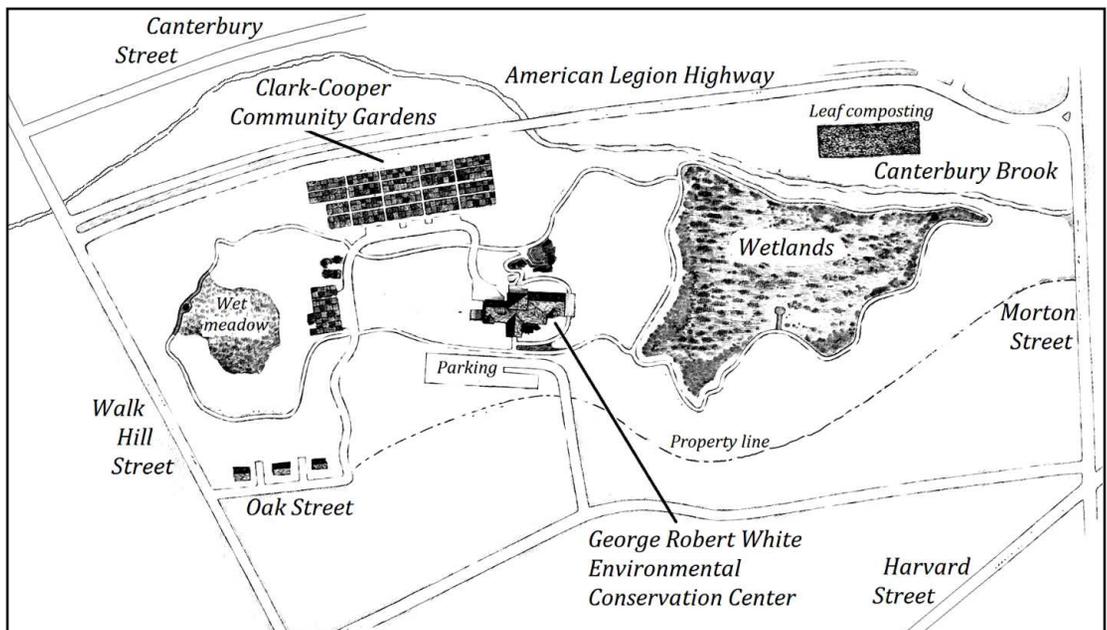
As early as 1973, hospital officials and the Boston Redevelopment Authority were considering ideas for new development of particular parcels at the site. One document, covering about eighty acres, summarizes proposals for a community school, a maintenance garage, a mental health detention center, a community recreation area, and housing for the elderly and handicapped. Later in the decade, the site was given serious consideration by state and local officials as the new home for Roxbury Community College, and the public debate aroused by that proposal increased community engagement with the issue.

In 1985, after the hospital was officially closed, state authorities convened the 22-member Boston State Hospital Citizens Advisory Committee (CAC), which included representatives from various local community groups, service agencies, and private citizens as well as key city and state officials. Later that year, the CAC proposed its own set of guidelines for future development on the site, offering a new vision for integrating the site into the surrounding communities by emphasizing accessible jobs, affordable housing, neighborhood revitalization, improved services for the mentally ill, and a master plan that would coordinate the various development proposals and ensure a respect for the natural landscape.

The CAC guidelines and vision were applauded, but implementing these ideals through particular proposals proved difficult. Meanwhile, the site itself only grew more and more unkempt, trash littered, and dangerous to local residents. In 1993, one local group, the Lena Park Community Development Corporation, spearheaded an effort to clean up at least one small part of the site and at the same time promote interagency cooperation and community involvement. Working with The Trustees of Reservations and the Boston GreenSpace Alliance, Lena Park developed a pilot project to employ local youth to clean up a two-acre area around the East Gate, off American Legion Highway. That summer, forty-four area youth thinned and pruned trees and shrubs, removed debris, mowed grass, and helped to instill a sense of pride and hope in themselves and in the local community. Although the pilot project was not replicated, it did help to engage the community and sparked renewed interest in coming up with creative solutions to the issue of what to do with the site.

In 1995, Mass Audubon—which had long been interested in establishing an urban sanctuary in Boston—presented its proposal for a nature center and wildlife sanctuary on 67 acres of the Boston State Hospital site. Tailoring its own goals and expertise in the light of the priorities expressed by the Citizens Advisory Committee and by the community, Mass Audubon designed a detailed proposal to achieve three major goals: (1) preserve the natural habitats and character of the site; (2) facilitate public access and use of the site and nature center; and (3) provide a broad range of environmental education and training opportunities. The proposal was accepted, and in 1997 Mass Audubon negotiated the purchase of the property for \$10 an acre, while the state accepted the responsibility for dismantling old hospital buildings, roads, and other infrastructure and for performing an environmental cleanup of hazardous materials.

In 1999, Mass Audubon began construction of the Boston Nature Center and Wildlife Sanctuary. The community gardens—recently renamed the Clark-Cooper Community Gardens, in honor both of Jim Clark and of Edward Cooper, another leader in Boston’s urban gardening movement—were consolidated away from the emerging wetland and equipped with necessary facilities such as an irrigation system, a bathroom, a gazebo, and an emergency telephone. The three brick cottages along Oak Street—the most prominent of the few structures remaining from the state hospital—were renovated for offices and educational use, and over two miles of accessible trails and wetland boardwalks were built throughout the sanctuary.



10.2. The Boston Nature Center and Wildlife Sanctuary.

A program of site-specific ecological management was instituted, including removal of invasive species, selective mowing of fields, and other techniques designed to bring the landscape back to something more closely approximating its original ecological condition. And as the capstone to the process of creating the sanctuary, an innovative partnership between Mass Audubon and the city of Boston led to construction of the George Robert White Environmental Conservation Center. Dubbed “the building that teaches” by Mayor Thomas M. Menino when it opened in October 2002, it was the first green municipal building in Boston and serves as a regional model for environmentally responsible building principles.

The George Robert White Environmental Conservation Center also serves as the headquarters for the BNC’s programs in environmental education, which in 2012 reached over eighteen thousand local children and youths, both in schools and on-site. Appropriately, the building lies exactly on the pathway that once ran across the old Williams property in the eighteenth and nineteenth centuries—from Isaac Williams’s homestead through fields and pastureland to the home once occupied by Elijah and Elizabeth Weld, and then across the brook to Canterbury Street. Three generations of children walked that path back then, on their way to the old school at the corner of Canterbury and Bourne streets, or farther on to Jamaica Plain—or maybe just down to the brook to play, to catch frogs or fireflies, to find companionship or solitude.

So when you hear the children learning and laughing on the lawn outside the nature center today, close your eyes for a few seconds and think back—you might be hearing the voices of those other children, whispering down the years.

## ∞ Sources ∞

As noted in the Acknowledgements, I began my research with Richard Heath's "The Great Meadows of Canterbury: Boston State Hospital Urban Wilds," a report written in 1993 for the Boston Natural Areas Fund that outlines the history of the entire site of the former Boston State Hospital. For background information and general context, I turned to Francis S. Drake, *The Town of Roxbury* (1878; reprint, Boston: Municipal Printing Office, 1905) and Robert J. Allison, *A Short History of Boston* (Beverly, Mass.: Commonwealth Editions, 2004), among other works.

After the first two specialized chapters, the basic fabric of this book is woven of individual facts gleaned from a wide range of public sources: federal and state census data; deeds, wills, and probate documents held by county institutions; birth, death, and marriage records from town and city vital statistics; information from atlases, city directories, and church records; and reports from a variety of branches of town, city, and state governments. Particular sources for most information of these types are mentioned or implied in the text.

Sources for other primary and secondary materials are given below.

### *Chapter 1*

Along with sources cited in captions, my understanding of the geological origins and development of the Boston area has been informed by the following works, among others:

Norman L. Hatch, Jr., ed., *The Bedrock Geology of Massachusetts*, U.S. Geological Survey Professional Paper 1366-E-J (Washington, D.C.: USGS, 1991)

Clifford A. Kaye, "Outline of the Pleistocene Geology of the Boston Basin," in *Geology of Southeastern New England*, ed. B. Cameron (Boston: New England Intercollegiate Geological Conference, 1976)

Lawrence LaForge, *Geology of the Boston Area*, USGS Survey Bulletin 839 (1932)

R. Damian Nance and Margaret D. Thompson, eds., *Avalonian and Related Peri-Gondwanan Terranes of the Circum-North Atlantic*, Geological Society of America Special Paper 304 (1996)

"Phase I Environmental Site Assessment, Former Boston State Hospital Site," report by Peer Consultants, P.C. (Cambridge, MA) to MA Division of Capital Planning and Operations

(June 12, 1995)

- J. W. Skehan, *Roadside Geology of Massachusetts* (Missoula, Mont.: Mountain Press, 2001)
- Margaret D. Thompson, Jahandar Ramezani, and James L. Crowley, "U-Pb Zircon Geochronology of Roxbury Conglomerate, Boston Basin, Massachusetts," *American Journal of Science* 314 (June 2014)
- E-an Zen et al., *Bedrock Geologic Map of Massachusetts*, U.S. Geological Survey (1983)

## Chapter 2

Along with sources cited in captions or in the notes below, my general understanding of prehistoric human habitation and environmental conditions in New England is informed by the following works, among others:

- Esther K. Braun and David P. Braun, *The First Peoples of the Northeast* (Lincoln, Mass.: Lincoln Historical Society, 1994)
- Dena F. Dincauze, "An Introduction to Archaeology in the Greater Boston Area," *Archaeology of Eastern North America* vol. 2, no. 1 (Spring 1974)
- Massachusetts Historical Commission, *Historic and Archaeological Resources of the Boston Area* (Boston: Massachusetts Historical Commission, 1982)
- J. Gordon Ogden, "The Late Quaternary Paleoenvironmental Record of Northeastern North America," *Annals of the New York Academy of Sciences* vol. 288 (February 1977), as well as other papers in this special issue on "Paleoenvironments in Northeastern North America"
- John F. O'Keefe and David R. Foster, "Ecological History of Massachusetts Forests," in *Stepping Back to Look Forward: A History of the Massachusetts Forest*, ed. Charles H. W. Foster (Petersham, Mass.: Harvard Forest, 1998)
- Timothy R. Pauketat, ed., *The Oxford Handbook of North American Archaeology* (New York: Oxford University Press, 2012)
- Dean R. Snow, *The Archaeology of New England* (New York: Academic Press, 1980)
- p. 23: On the Bull Brook and Neponset settlements, see also James W. Bradley, *Origins and Ancestors* (Andover, Mass.: Robert S. Peabody Museum of Archaeology, 1998).
- pp. 25-27: On Archaic habitation at the Arnold Arboretum, see E. J. Palmer, "Indian Relics of the Arnold Arboretum," *Arnold Arboretum Bulletin of Popular Information*, 4th series, vol. 2, no. 12 (1934); Dena F. Dincauze, "Prehistoric Land Use in the Arnold Arboretum," *Arnoldia* vol. 31, no. 3 (May 1971); and George C. Hibben, "Arnold Arboretum Prehistoric Indian Artifact Collection," a report prepared for the Arboretum in 1991 (available in the Arboretum Library).
- pp. 27-28: On the shifting nature of Woodland settlements, the late adoption of corn, and other issues, see Barbara E. Luedtke, "Where Are the Late Woodland Villages in Eastern

Massachusetts?" *Bulletin of the Massachusetts Archaeological Society* vol. 49, no. 2 (October 1988), and Elizabeth S. Chilton, "'Towns They Have None': Diverse Subsistence and Settlement Strategies in Native New England," in *Northeast Subsistence-Settlement Change A.D. 700-1300*, ed. John P. Hart and Christina B. Rieth (Albany: New York State Museum, 2002).

- p. 28: Information presented in the table is drawn from Howard S. Russell, *Indian New England before the Mayflower* (Hanover, N.H.: University Press of New England, 1980) (plants used by Natives at contact) and "Boston Nature Center Ecological Management Plan," report prepared for the BNC by Lou Wagner, September 2005 (plants found at the BNC and native to Suffolk County). Both sources include scientific names of plants, to verify correlations.
- p. 30: Massachusetts dictionary: Ives Goddard and Kathleen J. Bragdon, *Native Writings in Massachusetts* (Philadelphia: American Philosophical Society, 1988).
- p. 31: The finding of the stone chisel by Samuel Whittemore and its presentation to the Massachusetts Historical Society is recounted in the *Proceedings of the Massachusetts Historical Society* for 1864/1865 (see notes on the December 1864 meeting). Thanks to Anne E. Bentley at the MHS for tracking down this information. The chisel is now held by the Peabody Museum of Archaeology and Ethnology, Harvard University.

### **Chapter 3**

- p. 33ff.: Information on the Williams family comes from Stephen W. Williams, *The Genealogy and History of the Family of Williams in America* (Greenfield [Mass.]: Merriam & Mirick, 1847).
- p. 34: On the church in Jamaica Plain, see Fred Seaver, *The Founders and Incorporators of the Third Parish in Jamaica Plain* (Jamaica Plain, Mass.: 1917).
- p. 34: On the Revolutionary War service of Isaac Williams, see *Massachusetts Soldiers and Sailors of the Revolutionary War* (Boston: Wright and Potter, 1908); the same source was used for Elijah Weld and William Williams in Chapter 4, pp. 43, 45.
- pp. 35-36: My summaries of Isaac's and Elizabeth's estate and possessions are drawn from the probate inventories taken at their deaths, found in the Norfolk County Probate Court.
- p. 37: Information on Benjamin Payson Williams's political activity comes from a search of local newspapers via the online database "America's Historical Newspapers (1690-1922)."
- p. 37, 39: The evaluation of Benjamin Payson Williams as a farmer and the details of his final day come from his obituary in the *Christian Register* (Oct. 5, 1844).
- pp. 37-39: Quotations are taken from Benjamin P. Williams, *An Address Delivered at the Dedication of the School House Called Eliot Hall, on Jamaica Plain, January 17, 1832* ([Boston:] Gray and Bowen, 1832), available at the Special Collections Department of

the State Library of Massachusetts.

- p. 40: Reminiscence of Benjamin Payson Williams Junior from his obituary in Joseph Palmer, *Necrology of Alumni of Harvard College, 1851-52 to 1862-63* (Boston: John Wilson and Son, 1864).
- p. 40: Information on Isaac Williams II's Civil War service comes from *Massachusetts Soldiers, Sailors, and Marines in the Civil War* (Norwood, Mass: Norwood Press, 1931).

### **Chapter 5**

- pp. 47-48: The Emerson quotations are drawn from *Journals of Ralph Waldo Emerson*, ed. E. W. Emerson and W. E. Forbes (Boston: Houghton Mifflin, 1909).

### **Chapter 6**

- pp. 53-54: General information on the Fottler family is drawn from the entry on John Fottler in *American Series of Popular Biographies, Massachusetts Edition* (Boston: Graves & Steinbarger, 1891) as well as from relevant census data and city directories.

### **Chapter 7**

- p. 57: Arthur Austin quotations on the wetland are from [Arthur W. Austin,] *Report of the Committee on a New Road ... from Canterbury Street, West Roxbury, to the Dorchester Line* (Boston: Alfred Mudge and Son, 1854).
- pp. 57-58: My discussion of wetlands is informed by Ann Vilieisis, *Discovering the Unknown Landscape: A History of America's Wetlands* (Washington, D.C.: Island Press, 1997).
- p. 58: Austin quotation from Arthur W. Austin, *Address at Dedication of the Town-House at Jamaica Plain, West Roxbury* (Boston: Alfred Mudge and Son, 1868).
- p. 59: Henry D. Minot, *The Land-Birds and Game-Birds of New England*, 3d ed., ed. William Brewster (Boston: Houghton Mifflin, 1903).
- p. 60: Information on the making of Morton Street comes from Austin, *Report of the Committee, op. cit.* For more on the history of West Roxbury's independence from Roxbury and union with Boston, see Michael Rawson, *Eden on the Charles: The Making of Boston* (Cambridge, Mass.: Harvard University Press, 2010).
- p. 62: Birtwell biography from his obituary in *The Auk* vol. 18 (Oct 1901), plus additional census and immigration data.
- pp. 63-64: Birtwell quotations are from Francis Birtwell, "Let the Flowers Bloom," *Dorchester Beacon* (March 2, 1901).
- pp. 64-65: Peters biography is drawn from his obituary in *The Auk* (April 1957), plus census and other data. His bird list is found in *Bird-lore* vol. 9, no. 4 (July-Aug, 1907). The physical description of Peters at age 17 comes from his U.S. passport application dated June 22, 1907.

**Chapters 8, 9, and 10**

Much of the information and quotations in these chapters comes from the Annual Reports of the Boston Insane Hospital (consulted at the City of Boston Archives) and of the Boston State Hospital (consulted at the Massachusetts Archives, found at HS7.10/series 1318S). More on the hospital is found in Theodore W. Fisher, "The New Boston Insane Hospital," *American Journal of Insanity* (July 1893); William I. Cole, "Boston's Insane Hospital," *New England Magazine* vol. 19, no. 6 (February 1899); Henry P. Frost, "State Care of Boston's Insane," in *Proceedings of the American Medico-Psychological Association* (1913); and the National Register of Historic Places Multiple Property Documentation Form covering the Massachusetts State Hospital and State School System, dated Dec. 9, 1993.

Information on sewer and drainage projects comes from relevant reports of the Sewer, Street, Surveyor's, and Public Works departments of the city of Boston and from reports of the Metropolitan District Commission, consulted at the City of Boston Archives or through the Boston Public Library's helpful online collection of city reports and other documents.

My understanding of the development of the Boston State Hospital was deepened by examining the collection of BSH building plans at the Massachusetts Archives.

In exploring the lives of employees at the BIH/BSH, I have used information from the public sources mentioned above (federal census, city directories, etc.) as well as Boston city employee and resident lists, immigration records, WWI draft records, and other sources.

- p. 76: On the modern history of milk, see Kendra Smith-Howard, *Pure and Modern Milk: An Environmental History since 1900* (New York: Oxford University Press, 2014). If you're intrigued by mangel-wurzel, the website of the UK's Mangold Hurling Association offers a lighthearted introduction to the history and culture of "ballistic root vegetables."
- p. 95: Aerial photo of the West Campus in 1967 is from the Archives Division, Photographs, Box 13, no.140A-1, Boston State Hospital Grounds, 1967, SC2/series 1879, Massachusetts Archives.
- pp. 96-97: The quotation from Jim Clark is from Mara Gittleman, "The Role of Urban Agriculture in Environmental and Social Sustainability: Case Study of Boston" (Thesis, Tufts U., 2009). On the Clark-Cooper Community Gardens, see also Sam Bass Warner, *To Dwell Is to Garden: A History of Boston's Community Gardens* (Boston: Northeastern University Press, 1987).
- p. 97ff.: Much of the information here on the closure of the Boston State Hospital and the subsequent land disposition process is drawn from the BNC's collection of newspaper clippings from the 1980s and 1990s.
- p. 98: Mass Audubon's 1995 proposal for the BNC is included in the "Consolidated Master Plan for Boston State Hospital," submitted by the Division of Capital Planning and Operations on December 27, 1995.

*“Go afield – go before too late – before the bird and plover haunts of Dorchester are of the past. They are going quickly...Leave a few free fields, save a few of the beautiful woodlots. Life will be happier for them, and healthier too.”* - birdwatcher Francis Birtwell of Dorchester, in 1901



*A Healing Landscape* tells the stories of the people who have lived and worked on the land that is now the Boston Nature Center and Wildlife Sanctuary over the past two centuries and more – including early farming families, pioneering birdwatchers, and the residents and staff of the Boston State Hospital. In these pages, you can meet a Revolutionary War soldier and a resilient woman named Elizabeth, explore the changes that have taken place in the land over time, and learn about the creation of the Clark Cooper Community Gardens and of the Boston Nature Center itself. This expanded *Second Edition* features new material on the geological origins of the land, 10,000 years of Native American history, and the lives and work of farmers at the Boston State Hospital.



Supported in part by a grant from Mass Humanities, a state-based affiliate of the National Endowment for the Humanities



Cover Photos: Detail from 1884 Atlas of West Roxbury by G.W. Bromley: *Map reproduction courtesy of the Norman B. Leventhal Map Center, Boston Public Library.* Photograph of men working at the Boston Insane Hospital, c. 1900: *Courtesy State Library of Massachusetts Special Collections Department.* BNC Campers playing camouflage in the Butterfly Garden. *Courtesy of the Boston Nature Center.*

Back Photos: Portrait of Francis Birtwell: from *The Osprey* (April 1899). Photograph of cattle at the Boston Insane Hospital, c. 1900: *Courtesy State Library of Massachusetts Special Collections Department.*