# Introduction

1

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#### 1.1. Project Description

This report provides a summary of the archaeological investigations conducted of the Sarah Burnee/Sarah Boston Site (hereafter SB/SBS) as part of the larger Hassanamesit Woods Project in Grafton, Massachusetts between 2006 and the summer of 2013 (Figure 1.1). The SB/SBS was the home of successive generations of a Nipmuc household, passed from mother to daughter from the mid-18th to mid-19th century. It was originally discovered in 2005 and was the focus of intensive excavations until 2013. Excavations focused on the house's stone-lined cellar and the surrounding areas which included yard and possible garden deposits, a midden area, a possible dry well, and a stone quarry pit. All of these are located in a much larger home lot that was surrounded by walls to the north, south, and east on the downslope of Keith Hill that crests to the West of the property (Figure 1.2). Through a combination of excavation, geophysical testing, and vegetation and soil chemistry surveys, other parts of the home lot were investigated. Although these efforts found areas of cobble and stone surfaces that may have served as pathways for animals, they did not identify any additional structures such as a barn noted in several documentary sources. To the south of the home lot are two additional walled-in parcels. One of these, a large parcel immediately south of home lots appears to have served as the chief pasture for farm animals. To the south of the pasture is an area that documentary sources identity as Swego, an area where one of the site's most noteworthy residents, Sarah Boston, collected herbs (Figure 1.2).

The site is on land currently owned by the Grafton Land Trust. The project has been conducted under archaeological permit 2853 issued by the office of the State Archaeologist and the Massachusetts Historical Commission. The permit was amended three times, in 2010, 2012 and 2014 to accommodate an expansion of the investigations to include the Deb Newman site west of Salisbury Street on Keith Hill and two additional site areas along Salisbury Street a stone enclosure immediately west of Salisbury Street and the Augustus Salisbury Homestead immediately east of Salisbury Street (Figure 1.1). The Hassanamesit Woods project is a collaborative effort involving the Andrew Fiske Memorial Center for Archaeological Research at the University of Massachusetts Boston, The Hassanamisco Nipmuc, and the Town of Grafton, Massachusetts. The Hassanamesit Woods Management Committee played a central role in the project as the Town of Grafton's designated oversight body. Over time, the project has evolved both in scope and direction as a direct result of our

growing collaboration with the Hassanamisco, the Grafton Land Trust, and the Town of Grafton. Building on our initial investigations between 2003 and 2006 (Bonner and Kiniry 2003; Gary 2005; Law, Pezzarossi and Mrozowski 2008), excavations at the SB/SBS have expanded to include additional fieldwork, geophysical testing, and geo-chemical and palynological sampling associated with what we believe to be the sites of the Deb Newman and Augustus Salisbury households. The results of work at the Newman and Salisbury sites will be discussed in a separate report.

The SB/SBS is located on the eastern slope of Keith Hill in an area characterized by sloping elevations, numerous springs, and wetlands. It is located well within the original 1727 plot of Peter Magamaug and Sarah Robbins (see Chapter 2). Our primary focus has been the home lot of Sarah Burnee and Sarah Boston that is enclosed by stone walls along its eastern, southern, and northern boundaries (Figure 1.2). The uplands that comprise the eastern boundaries of the Kittacuck/Blackstone River Drainage are characterized by thin soils and prominent outcrops of bedrock. The eastern slope of Keith Hill transitions in elevation down to Miscoe Brook, one of the more prominent features of a landscape that archaeological evidence confirms has been the focus of Indigenous occupation for at least seven thousand years based on the stylistic characteristics of projectile points identified by archaeologists. The bedrock deposits that characterize Keith Hill include numerous veins of quartz and quartzite that have been used by Indigenous populations as lithic sources for thousands of years (see Chapter 8, section 8.2.7.1). The numerous springs and outcrop seeps around Keith Hill add to drainage patterns that appear to have been taken into consideration with respect to where buildings were located and how they were constructed. The overall wetness of the soils has given rise to a thick third-growth deciduous and coniferous forest that incorporates remnant apple trees from what was once the largest orchard in New England (Bonner and Kiniry 2003). The understory varies across the landscape, but in the vicinity of the SB/SBS there is thick mix of rose, honeysuckle, grasses, sedges, and woodland wildflowers.

The Deb Newman site is located west of the SB/SBS and outside the original 203 parcel that constitutes Hassanamesit Woods today (Figure 1.1). This portion of Keith Hill is only a short distance from the SB/SBS, and we know from oral histories and documentary sources that the two Nipmuc women were part of a broader community that continued to live in what has long been



Figure 1.1. Hassanamesit Woods Project Area, Grafton, Massachusetts.



Figure 1.2. Map of Sarah Burnee/Sarah Boston Homelot, South Pasture, and Swego.

Nipmuc country. The Deb Newman parcel is located at 16 Salisbury St, a property currently owned by the Grafton Land Trust. The 50 sq m area in question also lies in a high-tension power lane and is within the bounds of a property easement managed by the New England Power

Company. The area contains numerous stone walls including some that appear to bound a yard that we believe is associated with the home site. There is also a small stone feature that we believe served as an animal pen near one of the small wetland areas. Flora across the site is low lying and generally dense and composed of a mixture of young deciduous growth and invasive species. In some areas, especially those on higher ground, bedrock has been exposed. The entire easement area, including the 50 sq m area in question, has been kept clear of trees so as not to interfere with the power lines above. A small stream and intermittent wetlands are located near the site which drain into the Kittacuk/Blackstone River to the west.

## **1.2.** Theoretical Context

In the same manner that the areal extent of our investigations has expanded, the collaboration between the Fiske Center and the Hassanamisco has broadened over time. The result has been a growing convergence between our work at Hassanamesit Woods and the work carried out by Rae Gould (2010) at the Moses Printer property that today serves as the Nipmuc Reservation, and is also located in Grafton. That convergence has been aided by a shared goal of having archaeology serve the needs of the contemporary Hassanamisco Nipmuc community. The pragmatic philosophy that underlies our research (see Preucel and Bauer 2001, Preucel and Mrozowski 2010; Mrozowski 2012) is part of a continuing effort within archaeology that involves close collaboration with Indigenous groups (e.g., Atalay 2006, 2012; Colwell Chanthaphonh and Ferguson 2008; Echo-Hawk and Zimmerman 2006; Ferguson 2003, 2004; Gould et al 2020; Lightfoot et al 2013; Lilley 2006; Lydon 2006; Nicholas 2010; Peck et al. 2003; Schneider and Hayes 2020: Silliman 2008; C. Smith and Jackson 2006; L. Smith 2000, 2001; L. Smith et al. 2003; Watkins 2000, 2005, 2009). At Hassanamesit Woods our collaboration has followed two parallel tracks. One has involved close coordination of all research and scholarly activities with the Nipmuc Tribal Council-as it was called during the work, today it is the Hassanamisco Band of the Nipmuc-and the increasingly expanded consultation with Rae Gould and current Hassanamisco Sonksq, Cheryll Toney Holley. Gould, who served as the Historic Preservation officer for the Nipmuc during the project, is now the administrative director of the Native American/Indigenous Studies Program at Brown University. Over time these relationships have deepened with a shared commitment to the reawakening of Nipmuc History through collaboration (see Gould et al 2020) that has wedded the work discussed in this report to Gould's work at the current Nipmuc Reservation (2010, 2013a & b).

The second track has been to explore the use of archaeology in the pursuit of contemporary legal questions surrounding the on-going efforts of the Nipmuc to gain Federal Recognition (see Mrozowski 2012; Mrozowski et al 2009). Much of our research has focused on some of the more traditional strengths of archaeology in documenting the eighteenth and nineteenth-century residents of Hassanamesit Woods and their connections with the surrounding Nipmuc community. Basic goals such as establishing a chronology of the homestead's development and documenting the range of activities that took place at the site have been a major focus. Linking this history to that of other Nipmuc households, including those of Deb Newman and the Printer/Cisco homestead has aided us in constructing a narrative that counters that of the Bureau of Indian Affairs in its assessment that the Nipmuc failed to provide written evidence of cultural and political continuity over the past 350 years (Adams 2004). As this report will document, the archaeological evidence suggests otherwise.

Over the past decade scholars working in North America have documented the capricious and often biased quality of the Federal Recognition Process that relies exclusively on written forms of documentation. Without the benefit of either oral tradition or archaeological evidence, Indigenous groups have found themselves needing to embrace a form of strategic essentialism that ignores the dynamic quality of Native American societies during the colonial period and deeper past (Daehnke 2007; Ferguson 2004; Liebmann 2008 B. G. Miller 2003; M. E. Miller 2004; Mrozowski et al. 2009; Raibmon 2005; Wilcox 2009). Instead, Indigenous groups are asked to document an unbroken cultural and political stasis that relegates much of Native American history to the separate realm of prehistory (see Schmidt and Mrozowski 2013). This not only devalues Native American history, it also places an untenable barrier to seeing deep time extend into the recent past. Additionally, it reinforces the notion that colonialism resulted in a violent disjuncture that severed all cultural and political continuity with a past that is often characterized as timeless (Ferguson 2004; Gould 2013; Leibmann 2008; Mrozowski 2013; Silliman 2010, 2012). The impact of European colonization across much of the globe is an undeniable reality that is not to be minimized. Yet research in a variety of contexts continues to demonstrate that European colonialism did not result in a loss of Indigenous identity. The evidence we have unearthed at Hassanamesit Woods contributes to a narrative of cultural persistence and change that suggests a dynamic and adaptable set of practices that maintain Nipmuc identity in this instance.

There are those who argue that having archaeology serve contemporary political ends lessens its effectiveness as an objective tool of science (e.g. McGhee 2008, 2010). In addition, McGhee (2008) argues that to include Indigenous voices in our research is to privilege Indigenous knowledge over that of the archaeologist. We believe, as do others (e.g. Atalay 2006, 2012; Colwell-Chanthaphonoh et al 2010; Nicholas 2010; Silliman 2010), that the kind of Indigenous archaeology that McGhee (2008) criticizes as being unscientific is in fact better science, because it does not privilege one form of knowledge over others. The pragmatic philosophy that serves as the Hassanamesit Woods project's intellectual foundation (see Baert 2005; Preucel and Mrozowski 2010; Mrozowski 2012) fosters a more open investigative process in which all forms of knowledge are viewed as having value. Oral tradition is, for example, viewed as being no less biased than legal documents that are the product of contentious histories. The same is true of local histories. These too may be biased, yet it is this very characteristic that makes them valuable as sources of information concerning local perceptions of Native American society. Subjecting these kinds of sources to the same level of critical analysis as other forms of historical information makes them a valuable mechanism for divining the perceptions of local historians who were producing narratives that essentially erased Native American history (see Law-Pezzarossi 2015).

The reawakening of local histories is but one example of the level of rigor brought to the investigations at Hassanamesit Woods. The collaborative nature of our work with the Nipmuc is an extension of the multi-scalar, interdisciplinary approach that is an earmark of Fiske Center projects (e.g. Beranek and Landon 2024; Hayes and Mrozowski 2007; Landon and Bulger 2013; Mrozowski 2006a and b; Mrozowski et al 2009; Trigg and Landon 2010; Steinberg et al 2022). This included the discovery phase of our research that involved geophysical survey and soil chemistry, each of which aided our efforts to identify cultural deposits within the Sarah Burnee/Sarah Boston home lot and the South Pasture. More traditional field survey methods were employed in our explorations of the Deb Newman site. Pollen cores collected in the vicinity of the Deb Newman site have provided more in-depth information on the vegetation changes in the Keith Hill area more generally. The results of the pollen analysis will not be discussed in this report but will instead be part of a separate report on the Deb Newman and Augustus Salisbury investigations. At the other end of the spectrum, soil micro-morphological analysis carried out by Dennis Piechota (this volume) has provided valuable insights into sedimentary processes that we believe to be linked to specific activities in the area in and around the Sarah Brunee/Sarah Boston homestead. Macrobotanical and zooarchaeological analyses have added important information on the foodways practices and the use of different woods by the site's residents (see Allard 2010, 2015; Pezzarossi, Kennedy and Law 2012; Trigg, this volume). Material culture analysis of the surprisingly rich assemblage from the site has focused primarily on ceramics, glassware, metals, smoking pipes, and lithics. Using GIS mapping and analysis programs as well as spatial statistics we have also been able to gather a detailed picture of the different activities that were carried out around the home lot.

Combined, these various analytical approaches present a rich and detailed picture of daily life at the Sarah Burnee/ Sarah Boston farmstead between circa 1749—when we believe the foundation we have unearthed was first constructed—and the time of Sarah Boston's death in 1837. Ownership of the property remained in the hands of Sarah Boston's daughter until 1870, when the last piece of what had original 203-acre parcel was sold. The generational history of the original parcel, described in greater detail in Chapter 2, sections 2.1–2.4, stands as an emphatic reinforcement of Nipmuc cultural persistence. In the era after King Philip's War (1675–1676) when English colonial governments chose to redistribute Native lands, they did so in a manner that was consistent with their own cultural practices. Therefore, it is not surprising that in 1727, when large tracts of Native lands were subdivided, including the original 3,000 acres of Hassanamesit, male ownership—an English tradition—would be used to designate Native lots. Nipmuc cultural persistence, however, can be seen when the 203-acre property ascribed to Peter Muckamaug was transferred in later years through his wife Sarah Robbins' line of ownership, to their daughter Sarah Muckamaug, then to their grand daughter Sarah Burnee Phillips, and to their great grand daughter Sarah Boston. The persistence of this matrilineal line of descent and property ownership stands as powerful evidence of both the continuing importance of women in Nipmuc society and of Nipmuc cultural practices more broadly.

#### 1.3. Cultural Ecological Context

## 1.3.1. Keith Hill

The Sarah Burnee/Sarah Boston Home Site is located on the southern slope of what is known today at Keith Hill in the town of Grafton, Massachusetts. The large drumlin that forms Keith Hill was part of the community of Hassanamisco and lies within the Kitticuk River Valley. This area has a deep history with evidence of Native American land use spanning between 7 and 8,000 years based on the presence of accepted tool types. Archaeological research in the area has documented a variety of site types, overwhelmingly represented by lithic use sites, but also including several quarries within easy walking distance of the SB/SBS (see Chapter 8, section 8.2.7.1). Based on the results of numerous cultural resource management studies in the immediate area, the overlapping communities of Hassanamesit and Grafton have been the continuous focus of human settlement for at least the past 10,000 years (Fragola and Ritchie 1996; Gary 2005; Mulholland et al. 1986; Pagoulatos 1988; Glover 1998; Ritchie and Van Dyke 2005; Tritch 2006). In his analysis of the Native American lithics and pottery from the SB/SBS, Bagley (2013; Chapter 8, section 8.2.7) concludes that lithic tool production and general quarrying was the most noteworthy use of the area by its Native inhabitants. The extensive outcrops in the area not only provided lithic materials, in particular quartz and quartzite, but also a topography that lent itself to the construction of rock shelters and other stone structures. Our investigations of the SB/SBS have rekindled an interest in a host of stone structures in Southern New England more generally that have been the subject of speculation for more than a century (see Ives 2013). For most of the past 60 to 70 years there has not been much in the way of systematic, professional investigation of these sorts of stone structures. Our own work on this project has not delved too deeply into this question because the foundation and stonework we have investigated has clear cultural affiliations and dates to the last 350 years. Although there are Native American sites in the project area and greater Keith Hill that are part of a deeper past (Bagley 2013; Chapter 8, section 8.2.7) our primary focus is the Native and Anglo-American history of the more recent past and its connections to today.

The surrounding landscape was built above the bedrock of the primordial Avalon Terrane. It is located just southeast of the Bloody Bluff Fault that separates the Avalon from the Nashoba Terranes. Originally both massive landforms were part of the ancient supercontinent of Gondwana. They separated from one another 550 million years ago (Ma) and then over 400 Ma they smashed back into each other with a glancing blow along what is today called the Bloody Bluff Fault line. This caused the deep folding in the Earth's crust and led to the widespread fault-lines visible in today's bedrock. The ridge of one of these massive folds, called the Milford Antiform, runs from the southwest to the northeast under the Sarah Burnee/Sarah Boston Home Site.

The bedrock directly below the SB/SB Home Site is composed of Northbridge Granite Gneiss, a welllineated coarse-grained rock that weathers to light gray and contains quartz, plagioclase and distinctive amounts of biotite (Walsh et al. 2011). Over the millions of years since its formation, many large and small fractures have developed in this bedrock. This structurally weak yet water-impervious metamorphic rock has fractured under tectonic stresses as well as frost-related and fluvial weathering. The gaps in these fractures and faults became slowly eroded and widened by the seepage of percolating groundwater developing subsurface channels for the Keith Hill rainfall. (Figure 1.3). In geologically recent times, the last 20,000 years, this bedrock ridge was crosscut by glaciers whose weight and insistent southward movement added new fault lines and then widened them into the many wide river valleys that today run southward from northern New England and set the stage for the modern landforms of the region.

Surficial geology studies the sediments below the level of soil but above the bedrock. Such sediments, with the bedrock, define the topography of a region. The area around the SB/SB site is composed of unconsolidated sand, silt, and rock that was left by the last Wisconsin glaciation as glacial till upslope and glacio-fluvial sediment downslope. It has a widely varying thickness with a marked increase in thickness on drumlin-formed hilltops like Keith Hill and relative thin covering on the slopes. Its high silt and sand content lacking in clays makes it very permeable to groundwater (Figure 1.4).



Figure 1.3. Map of the bedrock under the Sarah Burnee/Sarah Boston home site. The blue rectangle indicates the position of the home site on the east slope of Keith's Hill. The ancient and brittle gneiss of the region with its northeasterly dip has developed interconnecting fractures and faults that allow water to percolate down to hillside springs around the home site. Image adapted from Walsh et al. 2011.



Figure 1.4. Subsurface sediment depths at Keith's Hill. The approximate location of the Sarah Burnee/Sarah Boston Home Site is shown as a rectangle on the eastern slope of the hill near 'Kittville'. As is common on drumlins, the deepest glacial till sediments (shown in green) occur on the hilltop upslope of the house. Thick sediment provides a large reservoir of fresh water for the many springs that surface downslope around the house and are especially visible along the cuts made for the current railroad tracks. The shallow glacial till downslope forces groundwater to the surface and may have been a contributing reason why this location was chosen for the SB/SB Home Site. Image adapted from Stone and Stone 2006.

Surficial sediments along with landscape help define the groundwater hydrology and areal watersheds. The thick till on top of Keith Hill provides a large reservoir for stored groundwater. Seeps of this groundwater dot the hillside and add a steady small background flow to the two major surface streams running down the easterly slopes to the north and south (known as Swego) of the SB/SBS. The thin till layer on the slopes and specifically around the SB/SBS makes for easy access to shallow upslope and downslope bedrock seeps or springs. The dip of fractured bedrock downward towards the northeast also channels

some groundwater from the thick till moisture reservoir of the Keith hilltop through the horizontal laminations and vertical cracks in the bedrock.

It is likely that there was Nipmuc knowledge of this local hydro-geological effect and its tendency to produce small bedrock springs of purified water on hillsides all along the area of the Kittacuck River Valley, where springs would be important year-round, but especially during the dry summer months (Stone and Stone 2006). Also, surface runoff, when it was available, may have been contaminated by waste from animal husbandry during the 18th and 19th centuries and the manuring of croplands. Such springs of purified water would be closer to hand than the waters of the Miscoe Brook. When the modern Grafton and Upton (the former Providence and Worcester) railroad track bed was laid in the late 1840s just east of the SB/SBS, it cut into the shallow bedrock, further exposing a line of these small springs.

Soil science studies the relatively thin layer of sediment exposed to the atmosphere. It has a long history of independent development from the rest of geology because it has been driven by particular economic interests such as agriculture and civil engineering. It studies what is referred to as the pedosphere in geology, meaning the layer of unconsolidated sediment that is altered in place by interactions with the aerial environment including all plants, animals and humans. The soils around the SB/SB home site began developing from the surficial sediments described above after they were deposited by the Wisconsin glaciation. For economic reasons the soils of the United States and most countries are classified today according to their content, hydrology, acidity and other traits important to agricultural and engineering uses. The soils surrounding the SB/SBS are designated as Paxton 305B, a type of fine sandy loam derived from glacial till composed of schist or other metamorphic rock and typically found on the slopes of the drumlins of the Kittacuck/Blackstone River Valley. Nearly devoid of clays, this soil type is well-drained, meaning that groundwater passes freely through it, an important trait on slopes with shallow sediment depths above impervious bedrock bearing extensive cracks and faults (Taylor 1998).

#### 1.3.2. Modern Vegetation

The current vegetation and plant communities provide a comparative context for the archaeological pollen, seeds, and wood recovered during this project. The slope, presence of wetlands, and depth of the soil vary and contribute to diverse vegetation, and even while the canopy is largely closed, there are some openings, especially near the SB/ SBS house foundations. The vegetation survey of the SB/ SBS home lot focused on the woody/arboreal vegetation along a 90-m transect. Every meter we identified the woody vegetation growing in or directly shading a  $1 \times 1$  m square. We began the transect west and down slope of the stone wall running along the railroad tracks and worked east in one meter increments through the home lot and to the pasture wall, recording the woody vegetation from the shortest (generally juvenile plants) to the tallest mature canopy. The terrain was generally sloping with a closed tree canopy and included a modest wetland. We identified 11 taxa with the oak group, subdivided into red-type and White-type. Oak (Quercus sp.) was the dominant tree type, followed by maples (Acer sp.), and witch hazel (Hamamelis sp.). Witch hazel was particularly numerous along the eastern stone wall of the home lot where the soil was deep and moist. Other tree taxa identified included (in order of dominance) hickory, ash, dogwood, birch, and elm. Other

woody vegetation identified included holly, wild roses, raspberry/Blackberry canes, and greenbrier. The transect did not contain any softwoods, although there were a few juvenile trees nearby, and the pasture and Swego lots contained small stands of pine. Understory vegetation in the transect consisted of ferns, primarily along the railroad tracks to the east (downslope) of the wall, where there was no overstory. Ferns were also present in the wetlands, but their density was low. Poison ivy was common along the wall, and grasses along the wetlands.

Notable vegetation in areas of the home lot that were not covered by the transect include the historic apple orchard. Although most of the trees are senescent, covered in honeysuckles, some still bear fruit, including one directly above the house foundation. Invasive multiflora rose and honeysuckle are common near the house foundation, especially to the south. The herbaceous vegetation consists of poison ivy, grasses and sedges, especially down slope of the house foundation, wintergreen, and other forest wildflowers. Within the home lot are stands of pines, oaks, hickory and maple, and an ash tree grows above the house foundation. While the canopy of the home lot is largely closed, the forest is young, and the presence of the apple trees amongst the larger oaks, maples and ashes attest to that youth. The area near the Deb Newman site may give an indication of the types of vegetation available in secondary succession areas. In the past, these may have been agricultural fields that were allowed to go fallow or farms that had been abandoned. Informal assessments of vegetation from areas that were cleared of trees under the power lines near the Deb Newman site includes dense stands of blueberries, strawberries, raspberries, wild grapes, poison ivy, small elms, and hazelnuts in the dryer areas.

#### 1.3.3. Site Area

The excavations in Hassanamesit Woods unearthed evidence that also extends beyond the confines of the SB/SBS to other Nipmuc households-that of Deb Newman and the Printer-Cisco homestead (Gould 2010, 2013a&b)-and may extend to the parts of Worcester County where historic period Nipmuc sites have been encountered archaeologically (e.g Bagley 2013; Leveilee, Dalton and Hoffman 1994). These connections speak to a continuing Nipmuc presence that involved economic and political activities that were part of an unbroken chain that continues to the present. This evidence of political and social continuity comes in several forms and will be a common thread throughout the report. Chapter 2 contextualizes our investigations with an updated and more detailed discussion stemming from Heather Law Pezzarossi's continuing analysis of primary documents, oral histories, and local histories. This is followed by a discussion of the methods employed during our investigations with a special emphasis on the lessons that have been learned as a result of our collaboration with the Nipmuc. Running the gambit from discussions of more traditional archaeological methods of site discovery and excavation to the development of a project blog, this discussion of project methodology represents a work in progress. In this regard it remains consistent with a pragmatic philosophy that calls for an open process that is itself organic in quality. The actual discussion of project results covers Chapters 3, 4, and 5, as well as a series of additional contributions that report on the various investigations and analysis. These chapters present a range of discussions including year-to-year excavation summaries, a discussion of site architecture and spatial evidence, a summary of material culture with more detailed discussions of particular artifact classes, followed by individual summaries of more specialized analyses including geochemical, macrobotantical, and micromorphological studies. These chapters are followed by a concluding chapter that includes recommendations concerning the continuing preservation of the SB/SBS foundation and landscape and other portions of the Hassanamesit Woods property.