Archaeological Investigations at Smith's Island, Bermuda: A Summary of Fieldwork,

A Report Prepared for the Bermuda Government Department of Parks and the Bermuda National Trust

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Introduction and 2013 Season Goals

This report summarizes the findings of the third year of excavations at the Bermuda Government Amenity Park on Smith's Island, Bermuda, and a preliminary survey of Bermuda National Trust land at the island's western end. This year's work built upon discoveries in 2012 and had three main goals:

1. To define the dimensions of the Oven Site and refine our understanding of building construction, abandonment and occupational activities. In particular, we hoped to find the front (eastern) wall of the house, establish a construction date, identify additional postholes that reveal structural techniques, and more definitively establish the presence of Native Americans at the site (as suggested by documentary evidence and chert flakes found in 2012). Proving a Native American presence would also confirm this site as the one documented by Boaz Sharpe's 1707 probate inventory.
2. Map, record, and test the small one-room ruin at Smallpox Bay to determine construction and abandonment dates and test the hypothesis that this site may have

been used as an on-shore quarantine base for sick patients arriving from sea, as specified in 18th-century legislation.

3. Guided by 20th c. aerial photographs and the 1966 and 1974 Ordinance Survey maps, conduct a pedestrian survey of the western third of Smith's Island (land owned by the Bermuda National Trust), especially targeting the site of a jetty projecting into the island's unnamed westernmost bay.

In addition to this pre-determined research design, the field school also further surveyed the Amenity Park land and found two especially promising new sites. We also conducted a Phase I testing survey of private property owned by Michael Dickinson on high ground above The Narrows on a site slated for house construction in order to determine whether any historic sites would be destroyed.

The season's excavations involved four undergraduate students from the University of Rochester and eight regularly attending Bermudian volunteers, making it possible to undertake large-scale surveys and clearing excavations in multiple locations. In addition to fieldwork, the group was involved in extensive public outreach, hosting six public tours of our sites for school children, visiting Sea Education Association college students, and more than two hundred general public visitors through the Historic Heartbeats lecture series and two St. George's Foundation-sponsored expeditions.

Acknowledgements

Archaeological excavations are highly collaborative projects that depend upon the contributions and expertise of a large number of supporters and participants. The investigations and discoveries accomplished in 2013 would not have been possible without a significant and vital international supporting cast of generous, patient, and hard-working collaborators.

This season's fieldwork was entirely self-funded and was made possible through financial support and student tuition from the University of Rochester; I am grateful to Renato Perucchio (Director of the Archaeology, Technology, and Historic Structures Program), Jacqueline Levine (Study Abroad Director), History Department administrator Jacqui Rizzo, Hilary, Brower, and other U of R staff who helped with the logistics of setting up the field school. I thank Lisa Johnston and the Bermuda Government's Parks Department for granting me permission to continue my archaeological investigations and to Andrew Baylay, Linda Abend, and Stephen Copeland, of the Bermuda National Trust's Archaeological Research Committee for their help in securing permission to investigate Smith's Island's western lands, gathering equipment, obtaining emigration permits, collecting student participants, and making available

the BNT's Reeve Court Archaeology Lab. Bermuda Government Senior Land Surveyor Sean Patterson and former BNT-ARC Chair Richard Lowry provided valuable contemporary maps and historical aerial photographs that helped us identify survey areas and create a GIS platform for further inter-site analysis. In the Bermuda Archives, Andrew and Karla Ingemann also helped us conduct additional research on Smith's Island's history and other research topics.

Other people and organizations made our time in Bermuda comfortable, educational, and enjoyable. Anne and Norman Brown made their condominium at Convict Bay available as accommodations – probably the most luxurious quarters that any field school students have enjoyed while digging in Bermuda. The management and staff at Somers Market in St. George's donated drinks and food from its salad bar, which made a vast difference in keeping morale up and replacing the calories we burned in the field – and it was fantastic not to have to cook after a long, exhausting day excavating! Geoffrey Redmond provided the use of his work boat for the season, which enabled us to get to and from our island worksites each day. Than Butterfield made a generous donation toward the petrol that kept the boat running. The residents of Smith's Island shared their island with us and suffered numerous invasions of public visitors who came to see our sites. I am especially grateful to Garth Rothwell for allowing us to use his dock and the modern facilities of his cottage throughout the season. Thanks also to Michael Dickinson, for inviting us to test his Smith's Island property prior to house construction and determining whether any archaeological sites would be thus threatened. The St. George's Foundation and the Spurling family has continued its year-round support and promotion of our research and, with Dr. Kim Dismont-Robinson's Historic Heartbeats series, made it possible for more than two hundred Bermudians to visit our remote sites on an island still not connected to the rest of Bermuda via a bridge (thank goodness!). Dr. Edward Harris and Elena Strong kindly welcomed the U of R students into the National Museum of Bermuda to enrich their education, while Outward Bound Director Mark Norman opened up Fort Cunningham and his ropes course on Paget Island to our students for both subterranean and aerial exploits. Drew Pettit granted us permission to visit King's Castle and see some of Bermuda's earliest buildings – especially the primitive multi-oven feature adjoining the castle which bears a striking resemblance to ovens we've found on Smith's Island. Ian Boatman and Nick Hutchings provided students with a practicum on underwater archaeology, taking them to snorkel over several shipwreck sites on Bermuda's western reefs. Finally, Rick Spurling allowed us to spend the night in the recently finished Settler's House at Carter House Museum, enabling us to experience the cooking, dining, and sleeping conditions of the earliest Bermudian settlers whose lives we were investigating on Smith's Island. It was a truly memorable night.

My biggest thanks go to my field crew, veterans Leigh Koszarsky and Kristina Fricker, Anima Ghimire, and Jonathan Zeleznik, who participated enthusiastically in field work throughout the five-week season and maintained good humor in the face of numerous

challenges. They endured my various experiments in teaching and being dragged to historical sites all over the island – and a few off island as well. I am also grateful for the hard work and commitment of numerous Bermudian volunteers this season: Scott and Kelsey Amos, Kristl Robinson-Assan, Chloe Baron, Sara Corday, Jason Correia, Alaina Cubbon, Suzanne Mayall, Khari Place, Matthew Viney, and Jillian Smith, as well as Rochester volunteers Jim Hermann and Fukumi Orikasa. Collectively, they enabled us to surpass our excavation goals and added local insights and a contemporary cultural dimension to the students' time in Bermuda. Finally, I'd like to thank my wife, Anna, for putting up with Bermuda field work that takes me far from home (enduring an involuntary simulation of an 18th-century mariner's wife left to run the household while her husband has fun working on the watery main) and my daughters, Charlotte and Katie, for being good when I'm away.

Oven Site

Excavations in 2012 exposed the bedrock floor of roughly half the ten-foot by ten-foot visible footprint of the house (as located in 2010) and the base of the hearth and two ovens for which the site was named. The 2012 stratigraphic sequence suggested a straightforward progression of bedrock excavation and structural posthole creation, a seventeenth-century occupation with at least one renovation episode (as revealed by a shift in posthole dimensions and locations), abandonment around 1715 associated with the deposit of a thick layer of stone rubble and building detritus, and casual use of the site during the nineteenth-century (including reuse of the hearth), presumably by labourers working at the adjoining quarry. Assuming a small square building functioning as a detached kitchen for a nearby dwelling house, we had expected to find evidence of the eastern/front wall of this structure in unit N3E4 - but didn't.

2012 Excavation extent. Unit N3E4 is at upper right corner.

Prior to the start of the 2013 field season, the principal investigator rethought the hypothesized building scenario to consider whether the visible room cut might be the rear room of a larger T-shaped or cruciform house - a typical layout for seventeenth-century houses,

as revealed by the footprints of surviving 1690s buildings in the Town of St. George's. To test this new hypothesis, we cleared vegetation up to twenty feet to the east of unit N3E3 and extended the 2013 trench another five meters to create a longitudinal cross-section of the house and to locate definitively the building's eastern wall (right).

Additionally, we cleared vegetation from the hillside cut running southerly parallel to the hearth/ovens feature in order to ascertain whether this cut face was the rear wall of the hypothesized new layout (right).

While clearing vegetation, students discovered an odd feature dug into the quarry detritus off-cut

stones approximately thirty-four feet east of the site datum point. After clearing leaves and branches, the feature was revealed to be a metal-lined cylinder with cross-shaped iron scaffolding within, apparently to hold a pipe vertically in place. The metal drum was nestled into a Styrofoam-filled buffer with a plastic tarp lining between it and the original bedrock cut. Nearby we found two fragments of a round Styrofoam lid with a small hole in its center. Black plastic one-inch-diameter piping in long lengths radiated out from the feature. Although the purpose of this feature is puzzling, it clearly dates to the 1970s hydroponic farming operations and would seem to be a holding tank or buried cistern involving some liquid that was temperature sensitive. Due to the unknown nature of the feature and the potential that it may have housed toxic chemicals, the feature was measured and recorded but not excavated.

Excavations in the eastern extension of the trench initially revealed a slight variation in the stratigraphic sequence, with two discrete nineteenth-century quarry rubble layers lying atop the same medium brown (MCXT 006) interior floor occupation layer. A vertical cut into the quite shallow natural bedrock surface parallel to western wall found in unit N3E7 firmly established the front wall of the house – exactly twenty-four feet from the west wall, matching a typical English architectural dimension. An apparently manmade cut and feature fill slightly to the east of the wall cut prompted expansion of the trench into unit N3E8 to define it (below), but subsequent excavations proved it to be natural in origin.

Originally (in 2012) thought to be associated with the post-abandonment collapse of the Captain Boaz Sharpe house in the 1710s and

indicative of limestone infill between timber-frame walls, our interpretation of the stone rubble layer (MCXT 005) shifted this summer to consider it as early quarrying cast-offs rather than building destruction debris. This new interpretation stems from the large, irregular but flat-cut dimensions of the stones removed from units N3E5-8 and the fact that the thickness of this layer steadily increased in the trench excavation to the east, closer to the quarry area. The discovery of a single plain sherd of white salt-glazed stoneware in the interface between the floor surface and the stone rubble layer revises upward slightly the dating of the abandonment of the house into the 1720s.

The absence of architectural materials such as metal hardware, hand-wrought nails, and building stone between the floor layer (MCXT 006, right) and the stone rubble layer strongly suggests that extensive salvage occurred at the site when occupation ceased. The Boaz Sharpe house likely fell victim to the 1712 or 1714 hurricanes and was plundered by Sharpe's heirs (who lived in St. George's and St. David's). The white salt-glaze stoneware fragment sealed at the bottom of the rubble layer helps date the commencement of quarrying in this part of Smith's Island to the 1720s or 1730s, corresponding to a period of major fortifications renovation (1727-29) and expanded wharf, warehouse, and residence construction in the eastern and northeaster parts of the Town of St. George's adjoining Water Street East and Duke of Kent Street.

The house occupation layer underlying the house destruction/quarry detritus layer (MCXT 006) was consistent in colour and texture with the 2010 and 2012 excavations and had a similar array of artifacts: coarse red and tin glazed earthenware, glass, fish and mammal bone, and few nails.

In further confirmation of identifying Oven Site as Boaz Sharpe's home, this layer yielded sixteen additional worked chert stone fragments, indicating stone tool manufacturing at the site. All fragments were small (less than 1 cm square), suggesting that larger flake detritus associated with manufacture (and the manufactured tool itself) were removed from the area, perhaps deposited outside.

The discovery of an iron fishgig tine provided a further correlation with Boaz Sharpe's 1707 inventory. Assessors recorded ownership of a small boat, which was presumably used by Sharpe's Indian slaves Philip or Andrew for fishing local waters. Although this inventory did not list a fishgig, they were common among nearby St. David's and St. George's households possessing boats. An example from Carter House Museum bears close resemblance to the one archaeologically recovered:

Based on the stratigraphic profile of units excavated previously, we expected to find an undulating but flat bedrock surface beneath Master Context 006, with postholes aligned with those found to the west. Instead, a new flat and compacted layer consisting of limestone rubble, broken bricks and charcoal extended across all units in the

trench, abutting the vertical stone cut representing the eastern face of the house. Underlying this was a thin, gritty occupation layer with few artifacts (thus likely of short use) and another flat compacted stone, mortar, and brick rubble layer beneath that. We interpret these three layers as representing two renovation episodes relating to the dismantling of at least two brick-lined ovens or hearths – one discovered in the northeast corner of the house (the lower layer) and the other relating to the western hearth and oven for which the site is named.

Broken bricks and mortar fragments that reveal the placement of bricks within an oval oven structure. No whole bricks were recovered, suggesting that all intact ones were reused elsewhere. This dismantling occurred during the first half of the Sharpe House's occupation since it was sealed by the Master Context 006 floor layer. Several large fragments of North Devon fine earthenware were found in this layer, a type of ceramic dating to the second- through fourth- quarters of the 17th century that was manufactured in the West Country; Barnstable merchant and Bermuda Company shareholder John Delbridge shipped numerous cargoes of West Country goods to Bermuda in the 1620s through 1640s, which were retailed locally by his agent, Smith's Island occupant Godherd Asser, and his sons. These sherds thus firm up links between this site and the Asser/Sharpe families and also date this renovation to the mid-seventeenth century.

Underlying these brick and mortar rubble layers was the structure's original cut flat limestone floor, into which a number of large (24-40 cm) postholes were cut. Three deep, uniform, ovate postholes formed an east-west transverse line, with the middle post centered at a twelve-foot interval between the outer ones adjoining the exterior wall cuts. The fact that these postholes are sealed by the two brick rubble layers helps date their construction to the earliest phase of house construction and indicates that the

Early oven and flat hearth surface in the building's northeast corner

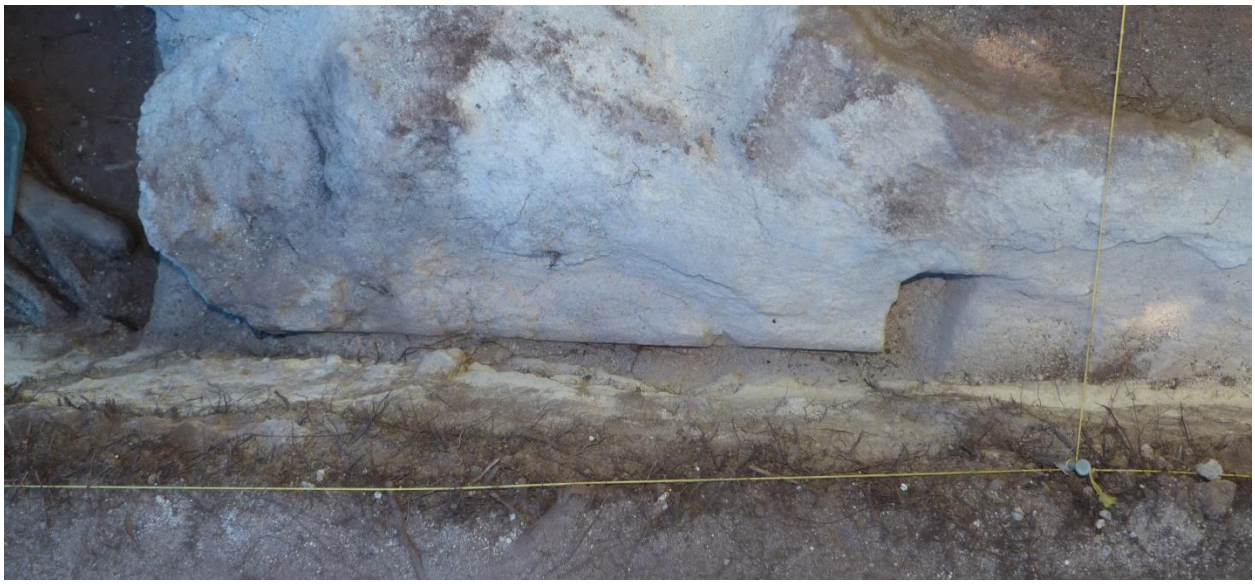
builders shifted to lighter-framed construction techniques (as revealed by the smaller, round, deep postholes found in the house's northwestern corner) after the oven demolitions had occurred. The largest and deepest posthole was found just west of the early oven/hearth configuration: it measured more than 55 cm below the original floor layer, which itself is more than two meters below the site datum point.

Cut floor layer, showing the transverse posthole (lower left), hearth shelf, oven, and a deep posthole to the east.

Cellar Stairs

In clearing the southern sidewall edge in unit N3E7, a linear vertical cut with a rectangular notched ending was revealed, prompting us to open a new unit to the south (N2E7) to define this feature. The quarry fill in this square was abnormally deep - more than a meter thick - and had no underlying MCXT 006 earthen floor or brick rubble layer beneath. The quarry rubble abuts the footing of where a wooden staircase sloped down to the flat floor at a forty-five-degree angle, and there is evidence of highly eroded stone steps cut into the bedrock in the same location. A vertical wall cut see in profile indicates that the footprint of the house extends

to the east here, suggesting that the Sharpe House had a front projecting porch room with a cellar underneath – a form not unlike many of the early cruciform houses portrayed on the 1663 Norwood map and several dating to the 1690s in St. George's (Seven Gables, Bridge House, Old Rectory, and Stockdale).



Conclusions

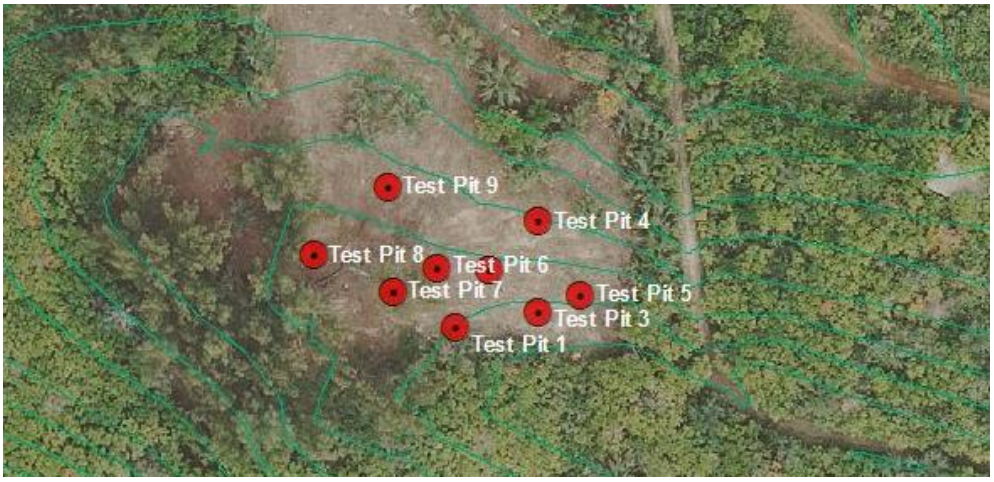
This photomosaic (right) shows the main transverse postholes (parallel to the southern sidewall), several sets of smaller, later postholes, the western wall cut (top) and the odd grotto feature set into the northern wall. The staircase cut (not shown) would be diagonal from the lower left unit and the deep posthole and abandoned oven features to the right of the same unit.

University of Rochester student Anima Ghimire provides scale to illustrate the depth and clarity of depositional layers (from top): topsoil with thin quarry fill; thick quarry detritus layer; brown floor occupation layer; brick and mortar renovation rubble layer; charred earthen floor layer; second renovation rubble layer; cut limestone floor surface.

Phase I Archaeological Survey
Michael Dickinson Property adjoining The Narrows

While conducting field excavations, we were contacted by Smith's Island landowner Michael Dickinson, who will soon be building a house on his private property above The Narrows. He had already cleared and marked the footprint of the house and wanted to know if there were any sites there that might be damaged or lost should he proceed. We were happy to support this forward-thinking and culturally sensitive landowner by conducting a "phase one" area testing strategy to determine if there were any archaeological sites in the targeted location. Documentary evidence suggests that a very early and important site was located quite close to this property: overlay of the 1626 John Speed map places a large, long house icon just above The Narrows and squarely over the Dickinson property. The icon is possibly indicative of the first settlement site that Governor Richard Moore started on Smith's Island in July and early August 1612; similar iconography on early Virginia maps uses a single long building to actually denote a town with multiple houses.

After a pedestrian survey looking for surface artifacts was completed (revealing only modern items) a total of nine 50-cm-square test pits were distributed across the area cleared for the house footprint. Excavation revealed that on this exposed hilltop location, bedrock was only 5 to 32 cm below the surface and that the area was not suited for agriculture. Seven of the nine test units yielded no artifacts and the other two contained only late 19th- and 20th-century glass and ceramics. To the northwest of Test Pit 9 on a slope we noted a large concentration of rusted metal that apparently is the remains of a car or farm machinery. The 1898 Savage Map and 1966 and 1974 Ordnance Survey maps indicate cleared fields in the valley to the north of the tested area. This field has recently been re-cleared by Michael Dickinson, restoring the property to a century-old configuration.

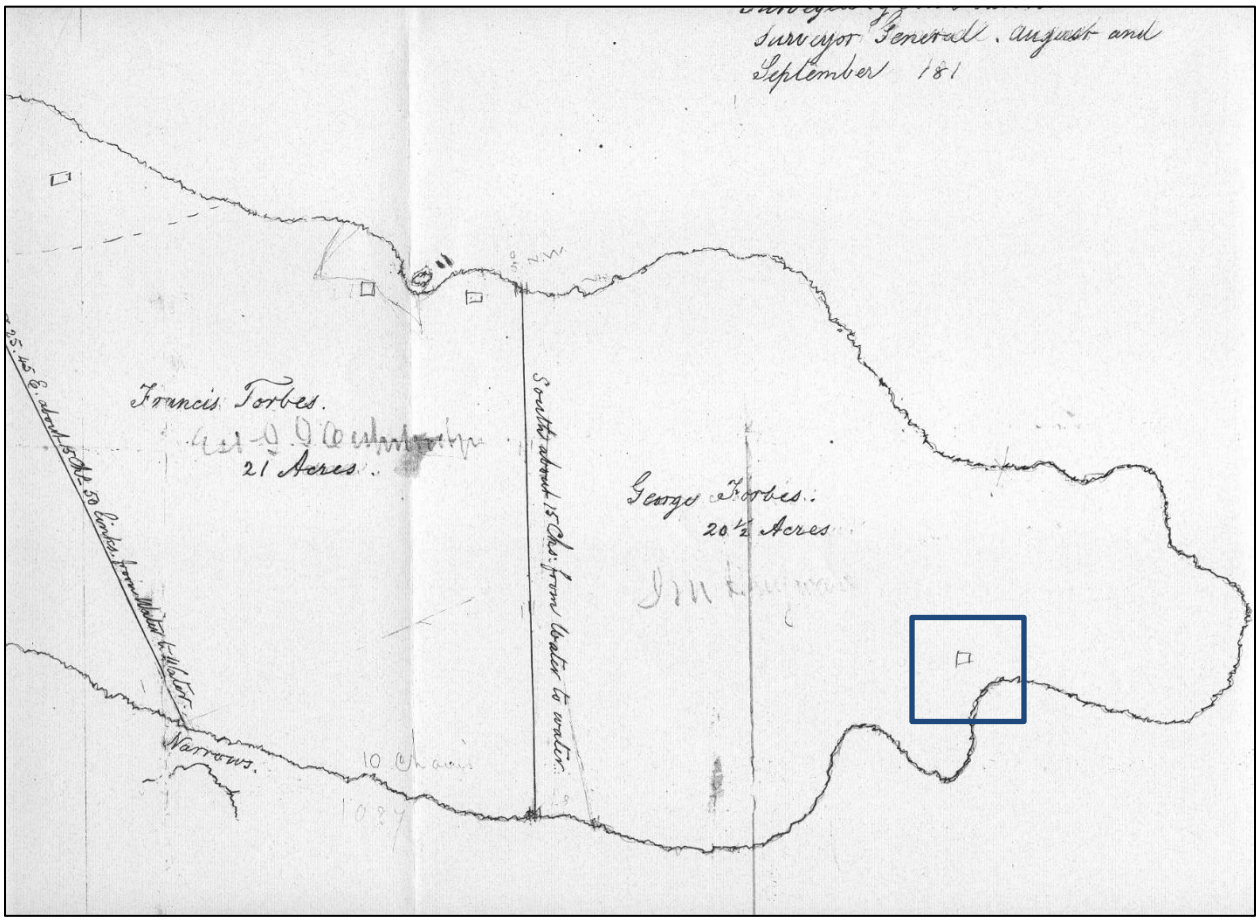


Conclusion

Although an early 17th-century building or the brief 1612 *Plough* settlement may be located in this part of Smith's Island, testing confirmed that it is not in the area targeted for house construction. Should locating this site become a priority, additional testing targeting the steep hillside to the north of The Narrows or the sheltered valley on the northern side of the Dickinson property would likely be the logical places to start.

Smallpox Bay Exploration and Excavation

In conjunction with documentary research focused on Bermuda's 17th- through 19th-century quarantine laws and legislative debates, one of the 2013 field season's goals was to investigate the inferred relationship between a small roofless stone ruin and Smallpox Bay, a designated quarantine anchorage in 18th-century legistlation. The building was well-suited to receive contagious convalescing sailors or passengers and would afford them more comfortable quarters than confinement aboard ship while still keeping them isolated from infecting the general population. The fact that the building footprint appears near the ruin on a 1814 map strongly suggests that it dates to this period.



The lack of a fireplace and ambiguity over where nurses caring for the patients would live complicates the quarantine "pest-house" interpretation, however. Alternatively, the building might have been the modest home of Forbes family slaves set some distance from the main mansion at the west end, or the home of unrecorded poor white or free black residents. The building's location near the bay at a part of Smith's Island hidden from the view of Crown Customs officers in St. George's and the commanders of Smith's and Paget forts suggests that it was ideally situated for smugglers wishing to land illicit cargoes before formally entering their

vessels at the capital. The same proximity to Town Cut also made the house an appealing location for fishermen, turtlers, and wreckers – a set of household economic strategies typical of many neighboring St. David's inhabitants. In the last two weeks of the field school, we conducted close mapping and limited test excavations inside and adjoining the ruin in order to evaluate these competing hypotheses and establish a construction date and occupation span for the structure. Associated artifacts such as cooking and dining items, faunal remains, and maritime, medical or craft-related tools would help identify building use as well as occupation dates.

After clearing back vegetation (which revealed the rusting remains of a 1960s car) and removing roof slates and rafters that had fallen onto the floor since 2007, we established a site grid and selected three meter-square units: one centered on the exterior of the northern wall (where a fireplace would logically have been positioned if one was built; N8E5), an exterior one adjoining the window on the eastern wall (N7E8), and

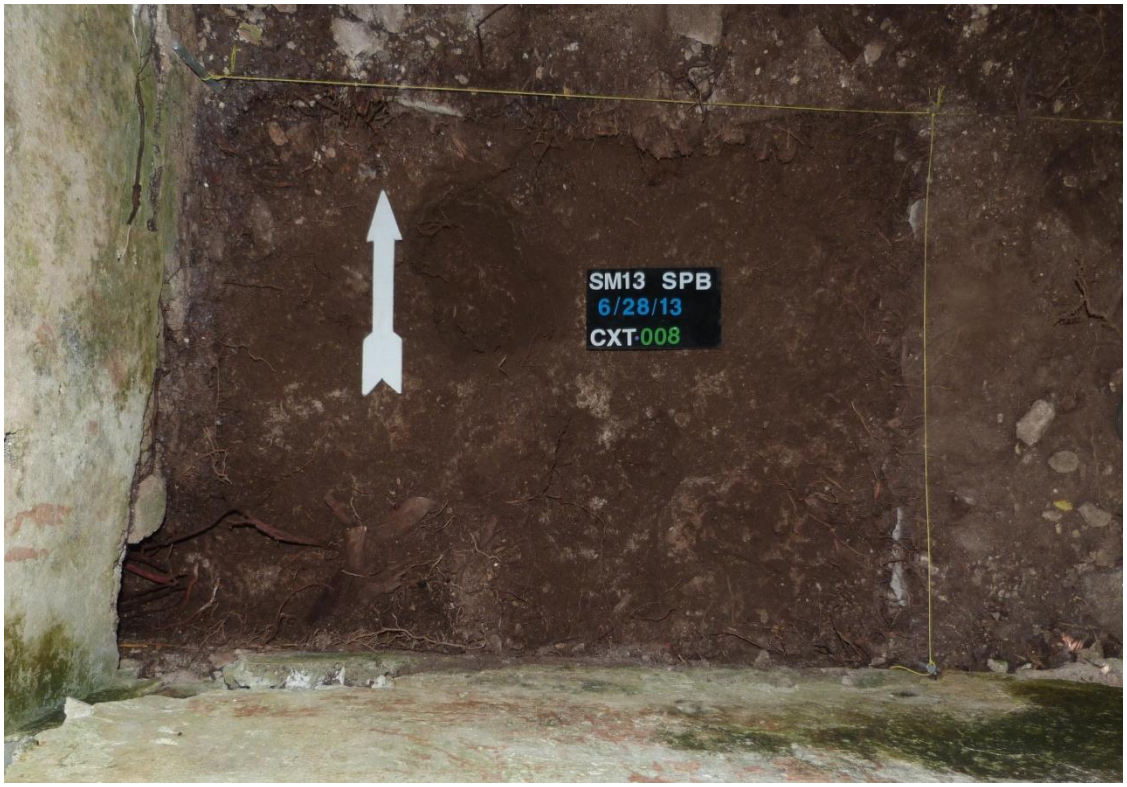
House interior with roof detritus, facing north.

an interior unit in the building's southwest corner (N5E5).

While the northern exterior unit N8E6 yielded only modern bottle glass and a shallow lens of soil (10-25cm), the other two units yielded creamware, pearlware, transfer-print pearlware, annular ware and early 19th-century (Ricketts mold) glass, as well as large mammal and fish bones. This establishes both an intensive occupation date of circa 1770 to 1830 and that the site was used for dining and food preparation and consumption. We now hypothesize that cooking was probably done in an open yard outside the house, following typical African and West Indian traditions and thus accounts for the lack of a hearth in the house. This arrangement would also be consistent with occasional, rather than constant, use of the building as a quarantine site. Vertical slots cut into the interior walls suggest footings for shelves and a bench or bunk bed, an interpretation that can be strengthened with further excavations targeting where the footings of the bunk would rest.

Posthole in N7E8, facing north

The most surprising discovery in the brief excavation is that all three units contained postholes cut into the underlying bedrock. Although the posthole in N8E6 was only 16cm in diameter, the other two were more uniform in diameter (25-30cm) and depth (20-24cm below bedrock). Both had stone rubble in their bases, perhaps indicative of builders levelling the posts or creating a shallow drainage layer to inhibit rotting of the post bases. The stratigraphic relationship suggests that there may have been a post and beam structure here predating the present stone ruin, but the absense of earlier artifacts may indicate that it was insubstantial and also not regularly occupied.



Posthole in N5E5 prior to excavation, facing north

Conclusions

Although we are only beginning to investigate this site, testing has established a late-18th century occupation date and the occurrence of domestic cooking activities that fit the interpretation of this building as a quarantine site. The apparently occasional use of the site mitigates against this being a slave or free black household. Although more excavation is needed to establish that the postholes discovered relate to a building (rather than a fence or enclosure), this new information may push back the dating and use of the area and may relate to 17th-century ceramics found in 2007 nearby at a dock footing to the southwest of the ruin site. Testing to the south and east of the ruin site would help assess the hypothesized use of yard space for domestic cooking activities. No medical-related artifacts were found, but then only a small area was excavated. The site is highly promising in shedding light on maritime, medical, and care-giving 18th-century practices.

Pedestrian Surveys in Western Smith's Island and Continuing Exploration of Amenity Park

As part of the training for undergraduate students in archaeological field methods, we conducted two days of site reconnaissance searching for above-ground features and new sites. After obtaining permission from the Bermuda National Trust to survey the area, we

concentrated on the small bay where a circa 1870 St. George's harbor chart placed two buildings. The 1966 Ordnance Survey recorded a road leading to a jetty but no buildings.

1870 (top) and 1966 maps of western Smiths Island

Attempts to find the road marked on the 1966 survey failed due to dense overgrowth and poison ivy, forcing us to traverse the foreshore between the western dock and the jetty area at low tide. We observed numerous cuts and features in shoreside stone as well as boat- and shipwreck timber fragments (some with copper sheathing), but the latter may be flotsam and not necessarily relate to Smith's Island activities. The Western Bay jetty area had several postholes and the scattered remains of a front dock footing. Surface finds in the posthole bases and the bay bottom at low tide included dark green bottle bases, 18th-century ceramics, and a portion of a boat stem or stern.

To the south of the bay we found two rectangular stone building foundations. The westernmost of the two was quite substantial, with wall one to two feet high and all four corners clearly visible. The lack of sizeable stone piles in the site center or adjoining the walls suggests that the visible outline may have served as the stone footing for a wooden building. The foundation is built with eight-inch cut Bermuda stones and measures 16.2 feet (north-south) by 14.8 feet (east-west). Large numbers of black plastic planting pots and tarps indicate this area has been occupied recently (likely for illicit marijuana cultivation) but not actively at present. To the west of this site is a flat area with asparagus ferns and casuarina trees; to the south is a large open meadow with Bermuda grass and poison ivy.

The eastern ruin has a substantial eastern wall (five feet high) and a clearly demarcated southern wall (flat topped, about one foot high), but the northern and western walls are not visible. The dimensions are 12.4 feet (eastern wall) by 14.5 feet (southern wall), with a possible continuation of the southern wall another 14 feet further west. This also may be the foundation of a square or long, rectangular wooden building with a stone eastern wall.

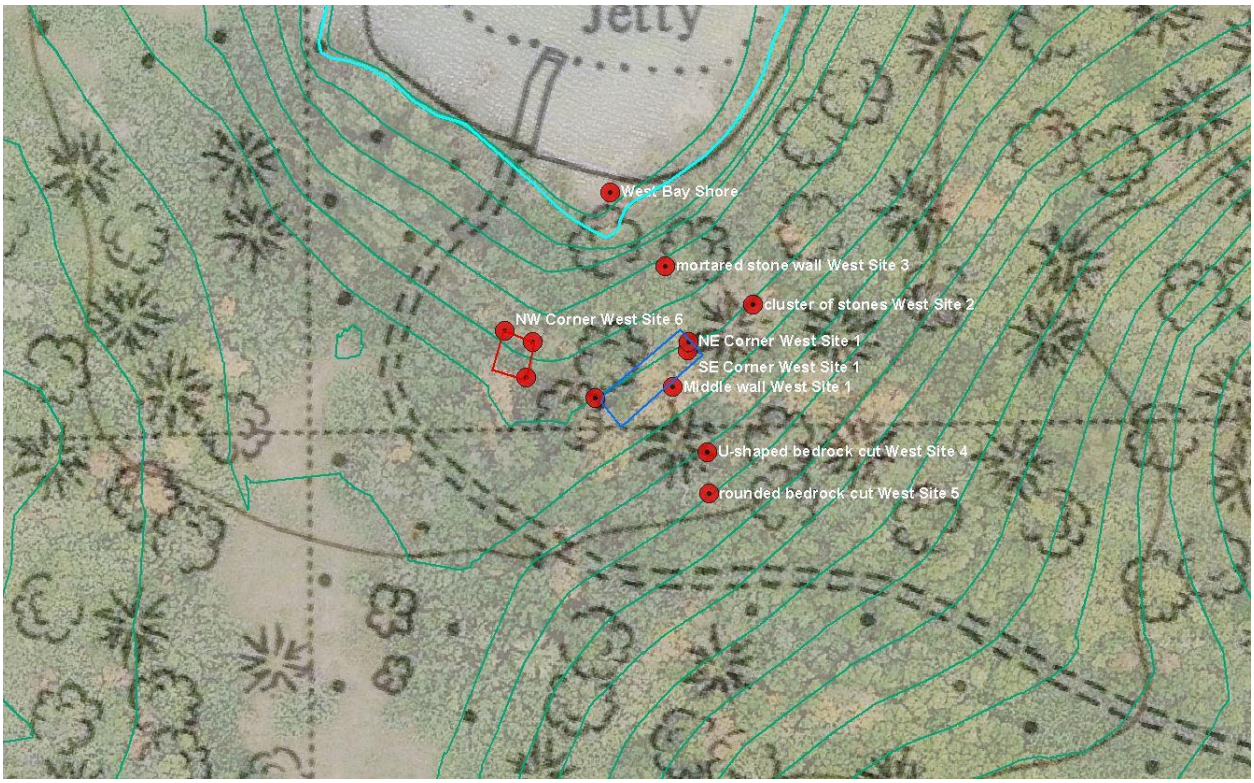
Eastern ruin, south wall in foreground, facing east

Eastern wall of eastern ruin

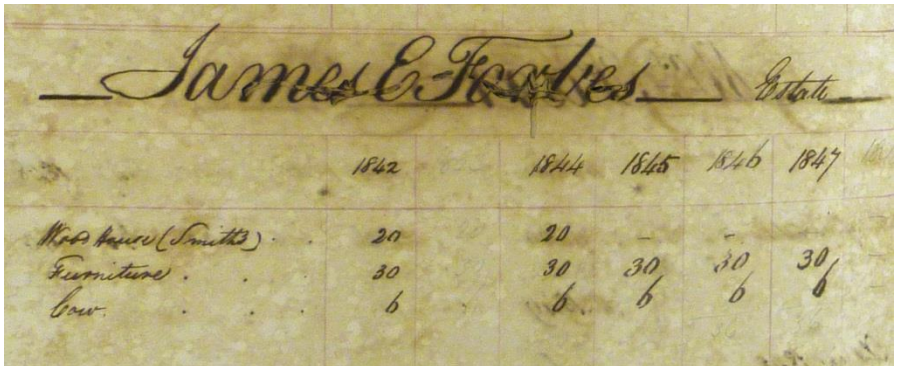
Like the western ruin, the lack of large stone rubble piles suggests a wooden building. A mortared stone wall section twenty feet to the north of the eastern wall and a cluster of unmortared but articulated cut stone blocks thirty feet east of the eastern wall both appear to be related to this house site. The area east and south of the house is flat for about fifty feet and then rises sharply, perhaps indicating a cleared yard area in former times.

Foot surveys to the south of these ruins followed the rising natural topography and a rock outcropping transversing the island. Two primitive and possibly man-made features were sighted adjoining this ridge: a long, U-shaped cut with a bare stone face approximately thirty feet south of the eastern ruin and a rounded cut face in a bedrock outcrop with a deep pocket of soil to

the south of the former feature.



This new cluster of sites warrants further investigation, especially for the insights it could yield about wooden building architecture – an understudied subject in Bermuda. The proximity of the two foundations suggests they were contemporaries. Although no archaeological testing was done in the area

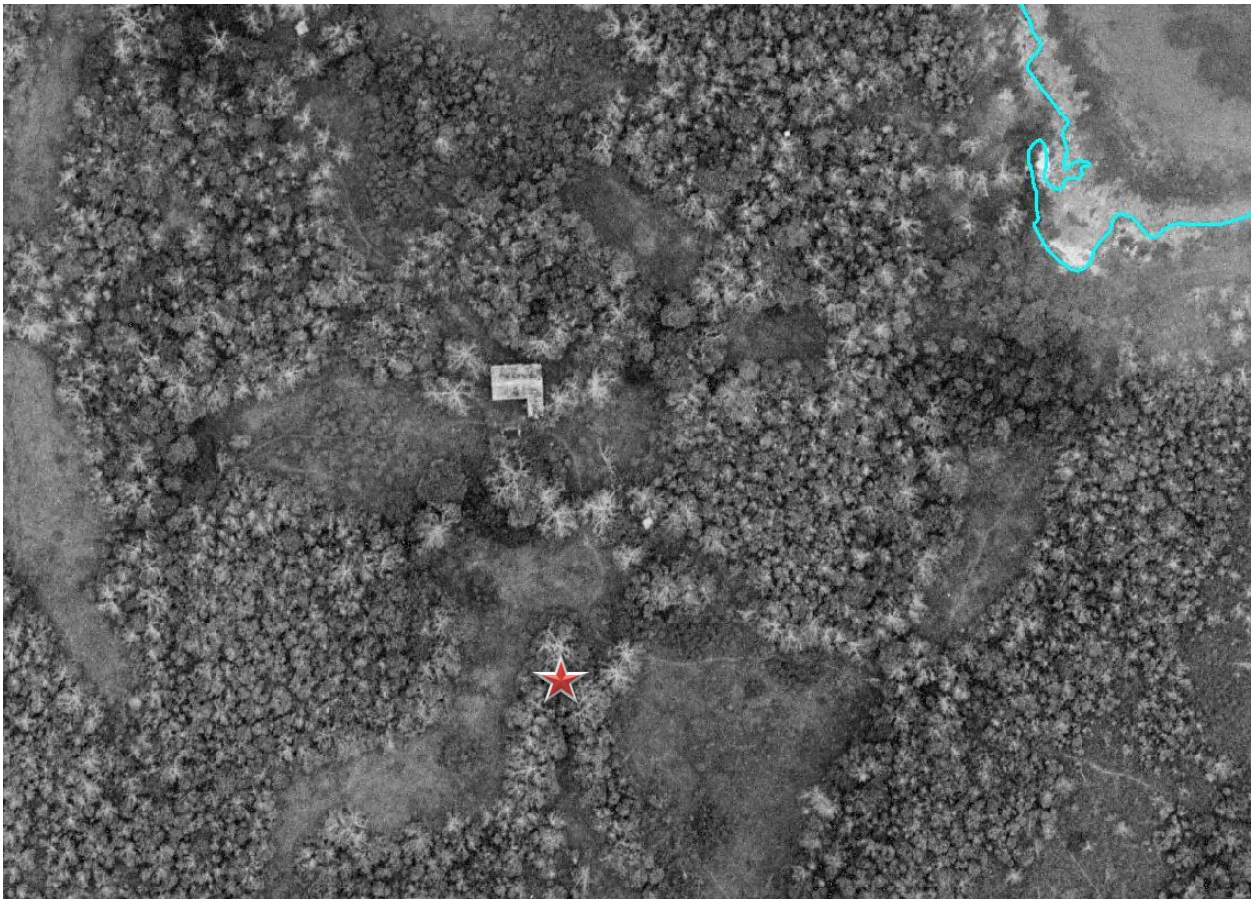


St. George's Parish Assessment, 1842-47 (BA, ANG/SG/PAS9:40)

to ascertain occupation dates for the sites, their proximity to the Forbes Mansion suggests they may have belonged to Forbes family slaves in the late 18th or early 19th centuries. Like Smallpox Bay, the sites were ideally situated for boatmen and fishermen seeking nearby sheltered moorings for their watercraft, as well as proximity to fields and quarries. Additional documentary research in the Bermuda Archives specifically targeting James Esten Forbes, a famous black Bermudian pilot employed by the Royal Navy and Crown, revealed that late in life, he owned or occupied a wooden house on Smith's Island – perhaps also his birthplace, given that his parents belonged to the Forbes family.

Amenity Park Additional Surveys

Although all sites within the Amenity Park marked on historical maps have been identified, very early sites, minor outbuildings, and sites occupied between the 1660s and 1790s (i.e., between the second Norwood survey and Andrew Durnford's survey) would not be documented. Consequently, during each field season we undertake a close foot survey of a different part of the Amenity Park. This year's search zone focused on the area south of the 1872 farmhouse in an area of dense overgrowth. The 1962 Aerial survey shows this house intact and with an open tank to its south and two paths diverging around it adjoining cleared fields.



While the survey's aim to identify features and outbuildings associated with this 19th century household failed to find anything, a half-buried cave with two openings was identified approximately as marked above. Running a metal detector over the area identified numerous signal hits within and in front of the cave, indicating human use or occupation. Since the site was found at the very end of the season, testing will occur in 2014 to determine the cave's uses and whether it is associated with the nearby farm. As a source of instant shelter, the cave may well have been the first occupied site on the island, predating Christopher Carter, Edward Waters and Edward Chard's construction of their first farmstead near Cotton Hole Bight. Alternatively, caves were regularly used by enslaved Africans in Barbados, Jamaica, and other Caribbean islands as meeting and hiding places. A third common use of caves was to conceal smuggled or stolen goods. All of these hypothetical uses of this new site will be tested in seasons to come.

Smith's Island resident Scott Amos showed us a large feature just off the main road near Cotton Hole Bight that appears to be a lime kiln or perhaps a well. It appears on no historical maps. The site is a cylindrical cut approximately ten feet in diameter and at least six feet deep, with indentations cut into its sides. The large tree growing up from the base of this feature indicate it is fifty or more years old and that there is likely several feet of fill in order to support its root system. It seems too far away to be directly associated with either the Cotton Hole Bight site or the 1872 farmhouse, so future testing should be done both to identify the age and use of this site as well as to look for possible domestic sites associated with it.

2013 Season Summary and Future Research

In terms of research questions and discoveries, we fulfilled all of our primary aims. We defined the front of the Oven Site house, revealing it to be a twenty-four-foot wide structure with two adjoining rooms where our trench bisected it. A collateral expansion unit (N2 E7) revealed a worn set of steps leading down to a deeper floor area, perhaps a front porch room; this discovery suggests the building was cruciform in shape. Three deep and deeply buried postholes were identified, dating to the earliest phase of construction. These were later buried by one or more renovation episodes when the brick lining of an oven and hearth was removed around the mid-17th century. In the upper layers of the subsequently deposited floor (dating to the late 17th and early 18th centuries) we found both West Country English pottery consistent with the geographic origins of Godherd Asser, the first historically known tenant of Smith's Island, as well as many more flakes of chert, associated with the documented presence of nine Native American slaves at the site in 1707. Next year's excavations will concentrate on determining the northern and southern wall boundaries of the Oven Site house, investigating the deeper floor area to the south of the main trench, and determining the dimensions of the postulated porch room in front. We also hope to test widely to the north and east of the house in order to find the privy, midden, outbuildings, and (perhaps) well that were typically associated with 17th-century homesteads.

Despite limited time available to investigate the Smallpox Bay ruin, we determined an active use span from mid-18th to mid-19th century through a surprisingly wide array of ceramics. The discovery of three postholes in the three units we excavated suggests that there is likely an earlier structure predating the standing ruin, orientated about 45 degrees off the extant stone ruin. Testing in an arc radiating out from the site may reveal associated features, including a hypothesized open-air cooking area and perhaps the graves of patients who did not survive their stay, if the site is indeed the quarantine base mentioned in 18th-century laws.

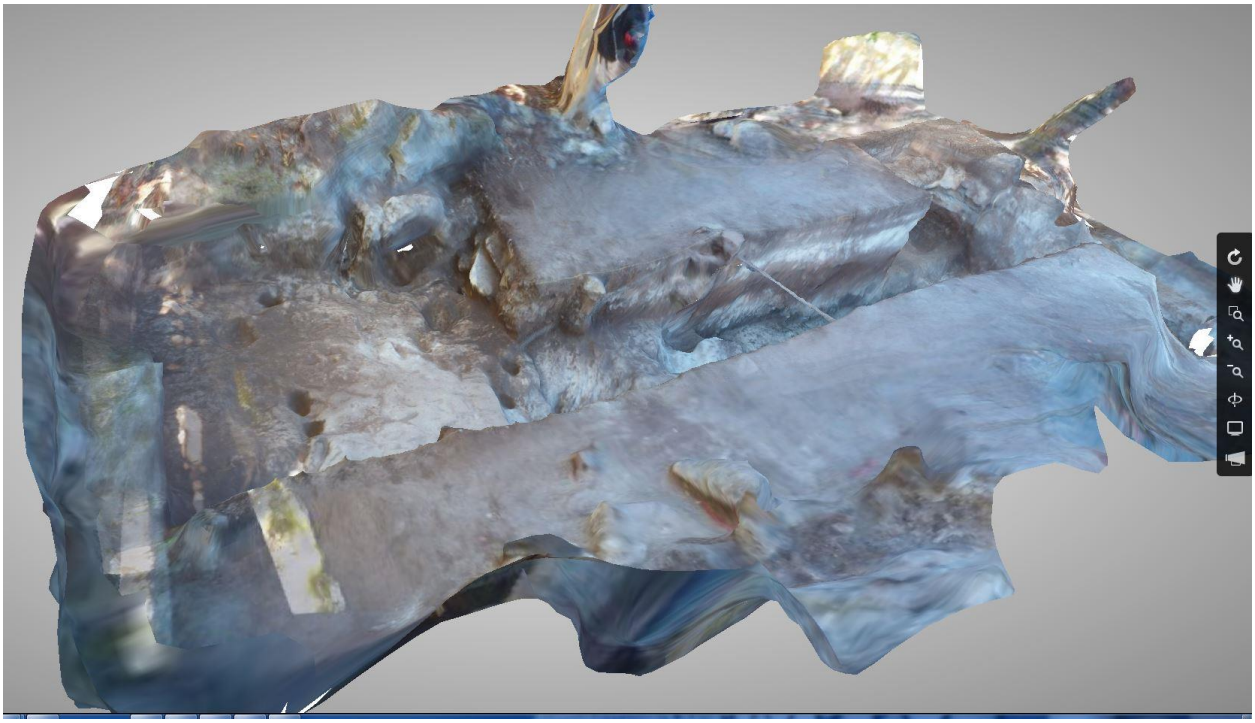
The final goal of the season was to find new sites - which we also accomplished. They ranged from the puzzling modern styrofoam-lined drum situated a mere thirty feet from Oven Site to a very promising cave located near the center of the island – a feature that would have been a highly attractive site to Carter, Chard, and Waters upon their first arrival but also to generations of slaves and smugglers who followed. The cluster of stone foundations on the Bermuda National Trust's Western Bay property suggests a small hamlet - perhaps where Forbes family slaves lived apart from their widowed mistress in the 1790s and later occupied by noted local pilot James E. Forbes, who was a salaried retainer of the Royal Navy hired to bring in their warships. Such an association makes this bay settlement a site of major historical significance to Black Bermudian heritage.

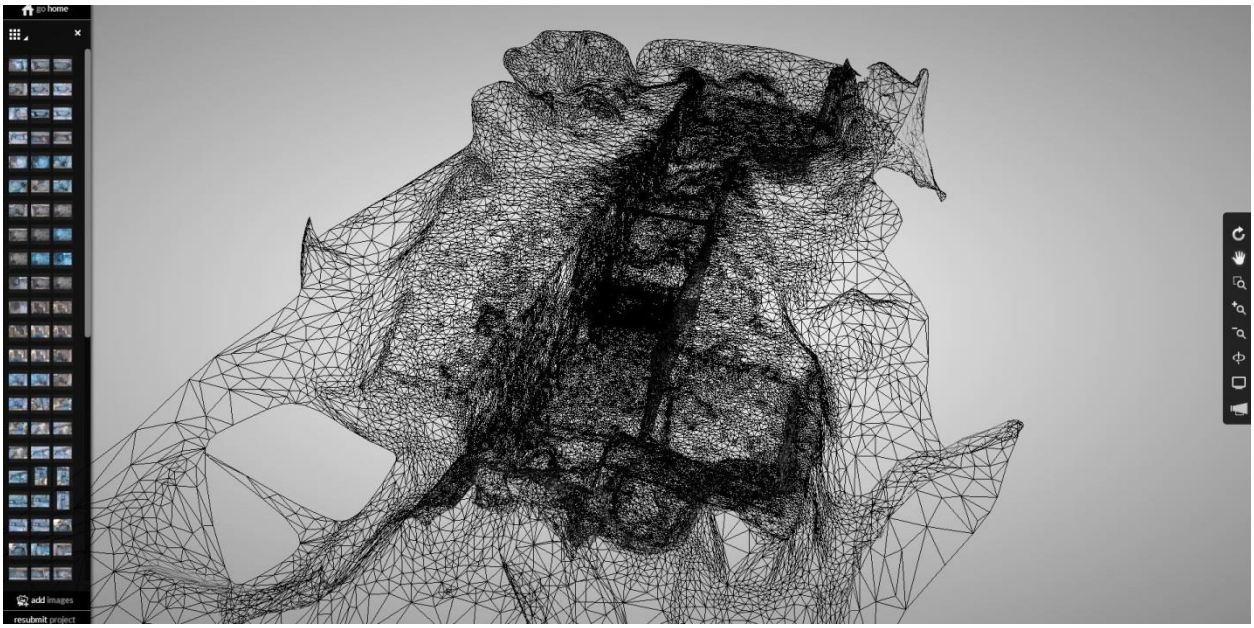
As important as it is to make discoveries, we also made a significant contribution by NOT finding anything when we tested at Michael Dickinson's proposed house site above The Narrows. Would that all Bermudians building houses had archaeologists verify that no irreplaceable archaeological sites were going to be destroyed through modern construction! An

afternoon's work was sufficient to reveal the absence of human occupation of the site, so the Dickinsons can go ahead and build with confidence.

Digitization, GIS Analysis, and Spatial Modeling

Since the conclusion of excavations in June 2013, research and site analysis has continued at the University of Rochester involving Leigh Koszarsky and Anima Ghimire in digitizing field drawings and photographs, conducting newspaper searches, and integrating spatial data from the many individual sites into an island-wide ArcGIS platform – from which many of the illustrations in this report are drawn. University of Rochester GIS Research Librarian Robert Beutner and the author have scanned and georeferenced all known historical maps of Smith's Island and linked site-specific GPS coordinates taken in the field to this in order to precisely locate excavation and survey data with sub-meter precision. In December 2013, newly available cloud-based ReCAP software from AutoDesk made it possible to create a photomesh 3D model of the Oven Site trench by integrating more than 175 unit reference photographs and overlaying them upon a high-resolution CAD model with some 1.8 million data points. This amazing model is fully interactive and can be studied closely even though the site is now backfilled. It is available upon request.



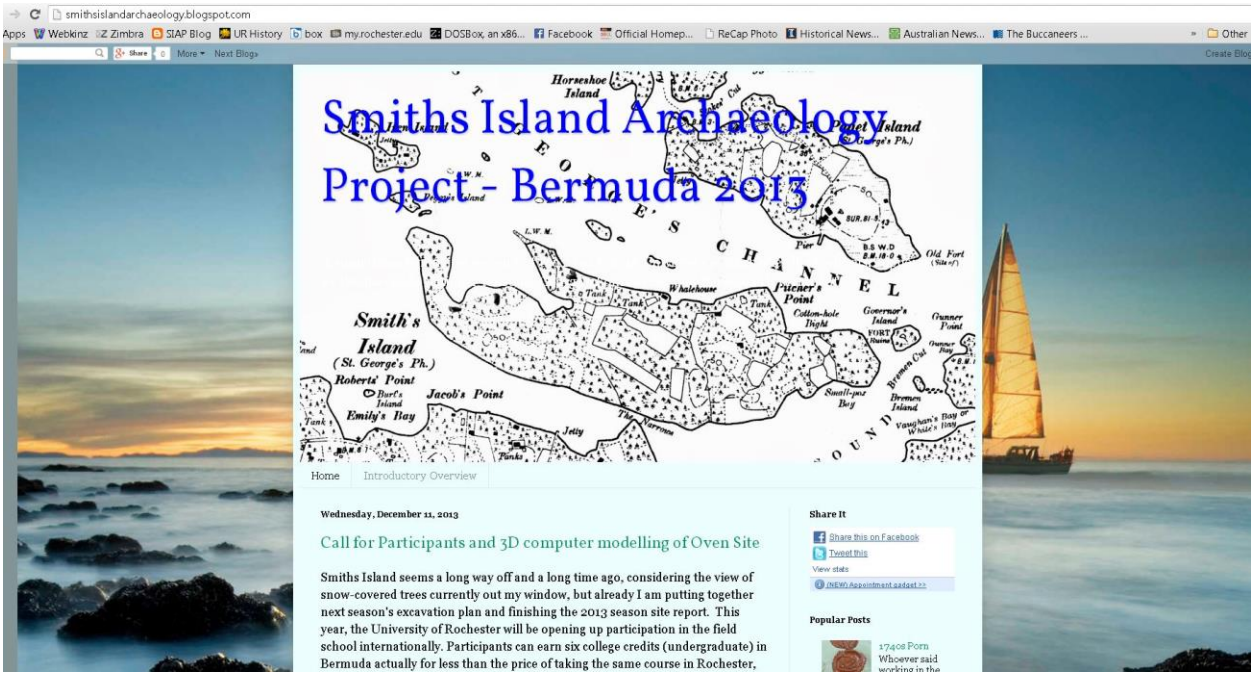


Knowing the parameters of this software in advance, the 2014 field season will undertake a full documentary photograph survey of every site in order to create 3D models of all of Smith's Island's cultural heritage with which archaeologists, historians, students, and the general public can interact and investigate on their own.

ReCAP 3D model of Oven Site. Oblique view facing northeast (top) and with CAD mesh underlay

Public Outreach and the Smith's Island Archaeology Project Blog

Archaeological excavations become largely irrelevant if their discoveries and contributions are not published and disseminated, and the value of archaeology to a particular population will remain limited if the methods and contributions of archaeologists are not shared and understood. In Dr. Edward Harris, Bermuda is fortunate to have a world-renown authority who authors a weekly column drawing attention to the island's history, heritage, and archaeological sites, but the public is rarely able to see fieldwork in progress. The Smith's Island Archaeology Project blog (Smith'sislandarchaeology.blogspot.com) was started in 2012 to remedy this by reporting on ongoing excavations and discoveries in real time, supplemented with photographs and maps to enhance the public's understanding. The blog thus allows most Bermudians (who cannot readily reach the sites) as well as archaeologists and scholars in the United States, United Kingdom, Canada, and beyond to follow our progress, study the sites, and contribute collaboratively to our investigation and interpretations. The blog was also useful pedagogically, in that students were required to post their observations and insights, providing the public with multiple perspectives and an awareness of the collaborative nature of fieldwork.



As of December 2013, the blog has had 14,093 visitors from more than 56 countries. The SIAP is thus known widely beyond Bermuda and through it an international array of virtual visitors has gained an appreciation of historical archaeologists at work and Bermuda's rich archaeological heritage.

As noted, four public tour days were held during the 2013 season, educating the general public, Sea Education Association college students visiting Bermuda, and 25 St. George's Primary School students, ages 6-8, and their instructors. The Historic Heartbeats tour was

videotaped and is available from the Department of Heritage and Cultural Affairs for viewing and classroom use.

It is hoped that in future seasons a formal program might be set up with the Bermuda National Trust and Bermuda Government Ministry of Education to introduce Bermudian primary and secondary social studies educators to the methods and practices of historical archaeology, either through site visits or volunteer participation. Since SIAP is focused on democratically investigating the past of all Bermudians (men and women of all races and classes) engaged in domestic, craft, and maritime activities, teacher participation could yield exciting personalized pedagogical approaches that would bring important and interesting local history into Bermuda's classrooms throughout the school year. The blog and 3D interactive models would serve as student research resources that will continue to teach even when the Smith's Island sites are not being actively excavated. Such multi-faceted, open-ended engagement with Bermudian teachers and students alike would contribute to fulfilling the St. George's Foundation's mission to "bring the past to life" through direct student and public interaction through the use of new digital media.

To engage St. Georgians and St. David's islanders and share with them insights into their past, the field season closed with a public presentation of our findings in the World Heritage Center on June 26. Following the lecture, attendees were able to converse with student participants and see representative artifacts recovered this year. The author and Kristina Fricker curated a small museum exhibit featuring the site and key artifacts that will be on display through May 2014.

Whether through watching video tours, visiting the Smith's Island blog, or seeing site artifacts at the World Heritage Site, Bermudians have ample opportunity to continue to learn about Smith's Island's sites and inhabitants on their own terms throughout the year. As an educator as well as an historian and archaeologist, it is this public outreach aspect of the ongoing Smith's Island Archaeology Project about which I am most proud.