Brighton Beach, St. Vincent, Excavations and Survey 2011

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1 | Introduction

The Brighton Beach site in southeastern St. Vincent is rich in archaeological materials from the Early Ceramic Age through the Early Contact period and therefore is an invaluable heritage location and scientific resource. The diachronic breadth of the materials encountered at the site makes it especially relevant to an increased understanding of the past culture-historical processes on the island and the region, as becomes immediately apparent from the eroded beach profile at the site. Unfortunately the archaeological deposits at the site are severely threatened by several factors. In fact, quite a large portion of the site has already been destroyed by at the time of the Leiden excavation and survey over a decade of sand-mining (for other causes, see section 4.4).

Two short visits had already been made to the site prior to the 2011 investigations: in 2009 by the second author while in 2010 a team led by Prof. Corinne L. Hofman and Dr. Menno Hoogland visited and surveyed the site without collecting materials. After this a formal invitation by the St. Vincent and The Grenadines National Trust (SVGNT) was made requesting assistance in excavating the threatened site. It was decided that members of the Leiden Caribbean Research Group together with some Leiden University students would undertake a small rescue excavation. This was done under the supervision at a distance by Prof. Hofman and Dr. Hoogland, funded by the NWO (Netherlands Organisation for Scientific Research) and undertaken in cooperation with the SVGNT, in order to come to grips with the culture-historical development of the Brighton Beach site and to map the extents of the site and possible means of protection.

1.1 Research questions

The excavations and survey were undertaken with the following main research question and subquestions in mind:

- How can the culture historical processes which took place at the Brighton Beach site be defined?
  - Which were the depositional processes which affected the site?
  - Which ceramic styles are encountered at the site and what is their stratigraphical situation?
  - Which absolute dates can be assigned to the ceramic stratigraphy?
  - Which artefacts of other materials are associated with the ceramic stratigraphy?
- In which geographical/chronological context should the culture history of the Brighton Beach site be placed?
- What are the extents of the Brighton Beach site?
  - What are the extents of the damage to the site?
  - How can the national heritage at the site best be safeguarded?

1.2 Methods and approach

In order to answer the above research questions the following excavation methods and approaches were applied. It is important to note that all excavations and surveys at the site

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were non-random, focusing on areas where archaeological materials were already visible at the surface or in the exposed profiles.

First of all a brief, opportunistic survey was conducted that focused on the eroded beach profile (see the attached report BRI11-0.5: 22-6). Together with the available information from last year’s visit and that from a test pit excavated by the SVGNT in 2011 it was decided that at least two units of minimally 2×2-m size should be opened (Units A and B; BRI11-0.5: 23-6). Afterwards it was decided to expand on the existing 2×2-m units in order to allow further correlation of their finds and an extended excavation area at these precise locations. After survey of the site a 1×1-m pit was also placed at the northern end of the site (Unit C; BRI11-0.5: 13-7).

A 2×2-m unit consists of four 1×1-m squares. These squares were excavated in 10-cm arbitrary layers (levels) which were numbered from low to high (lower numbers superpositioning higher numbers). When two stratigraphic layers were found to be part of the same arbitrary layer (level), the latter was subdivided using roman lettering (superpositioning following alphabetical order; so 6A is superpositioning 6B). All excavated soil was sieved with 5-mm mesh. All ceramics, lithic artefacts and other finds of interest were collected and put into find bags, all the material from one layer of one square receiving the same find number (in this document, e.g. FND1 for find number 1). All the materials from squares 25/08/15 and 15/87/26, which were representative of the total material of the other squares, were collected.

Following a systematic survey of all exposed surfaces and profiles in the vicinity (500 m) of the Brighton site four other findspots of interest were identified (BRI11-0.5: 27-6). These and other promising areas were sampled excavating 50×50-cm sized shovel tests which were dug to a depth of 40 cm. The finds from an individual shovel test were collected in one bag with a particular find number (see section 5.1).

The archaeological materials from squares 25/08/15 and 15/87/26 were split according to material categories and weighed. The ceramics from all squares were studied using Hofman’s system of ceramic analysis (Hofman 1993). The second author did an additional analysis specifically targeting local stylistic patterns. Dr. Niels Groot analyzed a selection of the ceramics with a special focus on the use of raw materials and technology. In addition, Dr. Sebastiaan Knippenberg analyzed all the lithic materials found during the 2011 field season at Brighton Beach. Several samples were collected for 14C-dating, to be divided into two separate categories: marine shells and charcoal. At Leiden University the suitability for dating of the samples will be further investigated in consultation with Prof. J. van der Plicht.
2 | Topography and site grid

![Map of St. Vincent showing the location of the Brighton Beach site.](image)

2.1 Location

The Brighton Beach site is situated in the community of Brighton, extending through the meadow and sand dunes adjacent to the black-sand beach at the southeastern (windward) tip of St. Vincent (Map 1). One can follow a small dirt road from the village all the way down to the beach and the site which are to be found at Brighton Bay, located between Ribishi Point
and Gunn Point. A small islet, called Milligan Cay, can be seen from the site. The Diamond River (sometimes erroneously referred to as the Brighton River) forms the erstwhile northernmost boundary of the site. Because of the destruction of the archaeological layers due to sand mining the site now extends to the row of houses at the northern end of the pasture. In the south it trails off some 350 m SSW of the mouth of the Diamond River. The site extends west under the dunes well onto the pasture behind the row of dunes (see section 5.1.3). In the east the site is cut off by the sea, although it may have extended well beyond its current eastern limits (see Map 6).

Figure 1. A view of the Brighton Beach site and surroundings from the air.

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2 It is noteworthy that there is a puzzling figure in Taylor’s sand mining report of which the caption claims there is an archaeological layer at the other side of the Diamond River (Taylor 2010: Figure 7). After a short survey the specific layer was deemed to be empty of archaeology.
2.2 Local excavation grid

A local grid was established within this location with a Total Station or TS (Sokkia Set 620). The $x/y/z$ coordinate system is roughly relatable to the magnetic north (higher $y$ coordinates represent a more northern location, higher $x$ coordinates represent a more eastern location) and the distance between every whole coordinate represents one meter. Control points (CP) in the grid have been marked with concrete iron bars with orange tips that were hammered into the soil. Due to the mobile nature of the soil in and around the Brighton Beach site it was anticipated that following the 2011 excavation and survey field season the control points cannot be used any longer. Because of this three main control points (MCP) were taken close to or on semi-permanent features such as telephone poles (see the attached report BRI11-0.4).

The site grid at Brighton Beach is divided into units of zones (100×100 m), sectors (10×10 m) and squares (1×1 m). There is a direct relation between $x$ and $y$ coordinates, so that in a grid of 1 km$^2$ (100×100 m), each 1 m$^2$ (1×1 m) has a unique digit reference based on the coordinate at its grid southwest corner (see Figure 2). A map of the site with its elevation, the location of all topographic features, control points, excavated units, and shovel tests was made in AutoCAD 12 using the coordinates exported from the TS (Map XXXX).

![Figure 2. An example of the Zone/Sector/Square system.](image)

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3 The original grid was created by assigning an arbitrary point in the landscape with the $x/y/z$ coordinates 15550, 35200, 15. Then, using the TS distance measurer, another point was measured in at exactly 100 m roughly in line with the direction of the magnetic West. This point was given the $x/y/z$ coordinates 15450, 35200, 10834.
The height measurements taken at Brighton Beach (or \( \xi \) coordinates) are part of the local arbitrary grid (in this document e.g. ELV 15 m). This means that a height of ELV 15 m does not correspond to elevation above sea level, for example.\(^4\) It is strongly recommended that, when starting future excavations at the Brighton Beach site a TS or water level is used to extrapolate the ELV heights from the Main Control Points (see attached report BRI11-04). If future arbitrary layer excavations have to take place without the presence of a TS/water level or main control points, the ELV of the surface can be extrapolated from the contour map made of the area of the site, which will make future excavated layers roughly comparable to those excavated during the 2011 field season.

2.3 Global grid

Thus far it has been impossible to transpose the local grid to the St. Vincent and The Grenadines national grid system due to the unavailability of national grid points in the area that could be easily correlated with the grid. It is possible to request the Lands and Survey Department, Kingstown, to measure in the control points at a later date, as this could not be done due to unavailability of surveyors at the time of the 2011 field season. UTM coordinates were taken with a SatMap Active 10 GPS of all local grid (main) control points (see attached report BRI11-04). The accuracy level of this GPS (1 m maximally), however, does not allow direct transposition of the local to a global UTM grid.\(^5\)

\(^4\) In fact the difference between ELV heights and meters above sea level is roughly 8 m (so ELV 15 m is 7 m above average sea level).

\(^5\) In order to plot the UTM coordinates found in this report into the popular Google Earth software or Google Maps website, the converter found at http://www.nearby.org.uk/flyto.php should be used.
3 | Previous research and literature
The location of the Brighton Beach site has been known for over half a century and has been discussed in a number of works. The site was previously thought to be limited to the area in the vicinity of the dirt road (Map 2). Sand mining in the Brighton area apparently started around 2000 and, consequently, the present extent of the site was not identified until some years ago.

3.1 Ripley P. and Adelaide K. Bullen (1969)
The first reference to the Brighton Beach site was made by the Bullens in the report on their survey of St. Vincent and The Grenadines. They mention to have visited a site ‘located on a terrace beside the southern bank of the Brighton River’ in 1969, collecting Saladoid pottery which ‘eroded from the side of the terrace’ and Suazoid ceramics ‘found on the surface in a cultivated field’ (Bullen and Bullen 1972: 125). Pottery deposits in the dunes along Brighton Beach are not mentioned. Besides, the modern topographic map does not refer to the name Brighton River, but to Diamond River.

Map 2. Map of Brighton Beach taken from Duval (1996: 93) showing the supposed extent of the site before 2000 (marked by dense point pattern). Scale bar = 100 m.
During surveys by Louis Allaire and David T. Duval in 1993 and 1994 the Brighton Beach site was visited again. Allaire and Duval collected potsherds from the same area as the Bullens, i.e. at the end of the access road to the area where at present the sand quarrying operations are taking place (see map, Duval 1996: Fig. 15). At the time of the Allaire/Duval survey this sand mining had not started yet. Sherds were encountered ‘along fence embankments which form a soil ridge perpendicular to the road. These embankments range in height from a few metres to the same level of the road. Some sherds, however, were recovered from the road surface itself.’ Allaire and Duval collected Saladoid ceramics from ‘approximately a 60-80 m² area.’ Duval notes that the ‘true and exact size of the site is not known, although it likely extends to the pastured land inland from the shore, which could not be investigated during the surveys.’ He correctly suspected parts of the Brighton site to be covered by the sand dunes along the beach but does not refer to potsherds collected from the dune area.

In 2009 Mrs. Kathy A. Martin, Mr. Roydon Lampkin and the second author visited the site and collected a large fragment of a Saladoid incense burner from the area of the site visited both by the Bullens and Allaire/Duval. They inspected the beach cliff profile shown by the sand dunes along Brighton Beach and concluded that this yields predominantly Saladoid ceramics with a thin scattering of Cayo materials on the surface in the southern portion of the site and Cayo next to Suazoid materials towards the north. In the latter area many food remains (shell and bone materials) were noted.

Prof. Hofman, Dr. Hoogland, Mrs. Martin, and the second author, together with a group of students of Leiden University, made a visit to the Brighton Beach site during the May 2010 field season at the Argyle site further to the north. The beach cliff profile was inspected and it was observed that the Brighton Beach site presents a clear cultural stratigraphy of multiple cultural strata that would be of interest to reconstruct the pre-Columbian past of the Windward Islands and specifically the St. Vincent and The Grenadines archipelago. It is noteworthy that several small contact-period beads and sherds showing Cayo characteristics were collected from the surface of the site during this visit.

Although it was then surmised that contact-period artifacts and pieces of the Cayo, Suazoid, Troumassoid, Late Saladoid, and possibly Early Saladoid styles could be recovered in context, the Suazoid component was not found in stratigraphic context during the 2011 field season (it was encountered as surface finds). This appears to have been mainly caused by the destruction of the respective cultural layers at the location of their deposition by the sand mining activities.
4 | Environment, geology and site formation

4.1 Modern environment
The modern environment of the Brighton Beach site consists of a beach zone with fine black (volcanic) sand. Directly adjacent to the beach one finds a small row of dunes (height 8-10 m) which are dwarfed by much larger dunes to the south (height 15-20 m). The dunes have a typically coastal vegetation consisting of trees such as Tropical Almond (Terminalia catappa), White Cedar (Tabebuia pallida), Sea Grape (Coccoloba uvifera), Cocoplum (Chrysobalanus icaco) and Goat’s Foot (Ipomoea pes-caprae). Behind the dunes there is a grassy pasture where the local livestock is grazing. This meadow continues as far as a series of houses at the foot of a hill showing xeric scrub vegetation. There is some lower-lying land to the south of the site which is slightly swampy. The Diamond River (a shallow 10-m wide permanent stream draining the hills of southeastern St. Vincent) debouches into the sea to the north of the site.

Many of the geological features and flora and fauna that were present at the site a few years ago, including a row of dunes in its northern part, have been destroyed by the sand-mining activities at the beach. This is attested by the beach erosion, which is progressing at a rapid pace (see also section 4.4.2). It is to be expected that, if these activities continue, they will drastically and irrevocably impact the environment, e.g. open up the hinterlands to flooding by the sea (Taylor 2010).

4.2 Past environment and Amerindian subsistence strategies
During pre-Columbian times the village site would have been located more inland than at present, although it is impossible to know the extent of coastal erosion since the pre-Columbian occupation. It is likely that sand dunes (sheltering the village from the wind and sea) were present, but the dunes that are part of the site’s modern environment were formed after the end of the indigenous occupation because they are devoid of any archaeological materials.

It is unknown what the exact location of the Diamond River bed would have been during Early and Late Ceramic Age times, but the stream would certainly have flowed near to the site, giving easy access to potable water. In recent times the low-lying areas of the site would have been swampy or, closer to the coast, covered with mangroves. The latter would have played an important role in the subsistence strategies of the settlement’s occupants, which is attested by the smaller fish and shellfish remains recovered.

The faunal remains encountered at the site show that the diet of its inhabitants consisted of a mixture of land and sea animals, indicating that the Amerindians practiced a broad range of subsistence strategies (see sections 5.3.3 and 5.3.4). Mature sea turtles were probably procured at the beaches in the vicinity, as is attested by the finding of several turtle remains, in one case identified as a loggerhead (Caretta caretta). Banks would have given access to smaller fish and shellfish. Milligan Cay, only 100 m or so offshore at its closest point, is presently the habitat of iguanas and seabirds. That the inhabitants of Brighton Beach actively targeted these species is evidenced by the many bird bones and occasional
remains of land reptiles in Unit B. Off-shore (reef) fishing would have been practiced as well, as is shown by the presence of larger (reef) fish remains.

The land was also intensively exploited. Charred seeds and nuts found at the site show evidence of horticulture (layers 2 and 3 of Unit B). This is further attested by the great quantity of small rodent remains, including those of the agouti, an animal which often inhabits garden plots. These, perhaps semi-domesticated, rodents would have been part of the diet as well.

In short, Brighton Beach was an optimal setting for pre-Columbian settlement. The dry land, beach, swamp, mangrove and off-shore reefs would have provided mixed, but readily available and constant means of subsistence. A source of potable fresh water was close-by. Furthermore, the beach looking out on Brighton Bay would have been a great strategic and logistic asset, allowing good visibility of incoming visitors as well as enemies and the launching of canoes.

4.3 Interpretation of the geological layers

Brighton Valley is part of St. Vincent's Southeast Volcanic region. The low-lying hills surrounding the valley are the result of upheaval by volcanic activity. The geological layers at the site, however, are likely the result of both alluvial and marine deposition of sands, with marine deposition probably playing the largest role in sediment accretion. The sand is very fine to medium coarse and has a large clay component in parts of the site (e.g. layers IIIc and d). There are concretions in geological layer III, which might have been caused through volcanic activity. For the rest the sand is almost completely devoid of any other natural inclusions. The lower geological layers are much more compact and cemented than the higher layers, however.

The cliff profile which is exposed along the beach, presents a stretched out overview of all stratigraphic layers at the site (see attached report BRI11-0.3). It shows a sharp distinction between the dark grey/black geological layers (Ia and b) on top and the yellowish/yellowish brown geological layers (III a-f) below. The reason for this colour change is not fully clear, but perhaps the earlier layers were subject to different organic or chemical weathering than the upper layers or that a different mother material was involved in the marine and alluvial deposition of the lower geological layers at the site (possibly caused by volcanic activity).

The dark coloration of the soil in some of the geological layers is likely caused by organic weathering, which is especially clear in layer II. This layer is not present throughout the whole profile and has clay depositions, which suggests that there was a swamp or mangrove at the time that this layer was deposited, an argument that is backed up by the relative low density of finds in this layer.

The lower yellowish/yellowish brown layer is interpreted as (beach) sand in from higher to lower various stages of cementation. The bottom geological layer (V) likely represents the Holocene mother material. It is predominantly sandy concretion with a pale yellowish to yellowish white coloration.

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7 It was communicated to us by the local people visiting the site that the waters directly behind Milligan Cay still boast plenty of fish. The island’s iguanas are still hunted at present. According to these sources, only thirty years ago the island could still be reached by walking or wading from the shore.

8 Study of the sedimentary processes at Brighton Beach shows that the area, especially its southern part, naturally has a net mild to significant accretion (Taylor 2010).
4.4 Post-depositional processes

There are and were many different post-depositional processes at work at a littoral site such as Brighton Beach, depositing soil and eroding the site during and after its period of habitation. This makes reconstructing the original extent of the site, its diachronic depth and the relative importance of the various transformational processes a complicated affair. The following N(atural)-transforms and C(ultural)-transforms surely played an active role in shaping the archaeological record at Brighton Beach.

4.4.1 N-transforms

The Brighton site cannot be understood without good understanding of the natural processes of accretion and erosion. It is supposed that erosion at the site is caused mainly by wind and wave action. Especially storm surges and hurricanes would have effected significant erosion at the site. At present the site is also subjected to erosion by more temperate action of wind and waves because the stretch of beach has been considerably diminished by the sand mining activities in the area (see below).

In general, it seems that the rate of accretion at the Brighton Beach site was quite rapid for a site without any significant volcanic depositions. This can be seen from the depth of the cultural stratigraphy at the site, which is considerable compared to other littoral sites in the Caribbean. This accretion may have been caused by mild to significant accretion by the sea (Taylor 2010), likely aided by periods or intervals of alluvial deposition of sand and silt (as can be seen in attached report BRI11-0.3, layer II). Eolic processes would have had a considerable impact on the site as well. Of course, fine beach sand would have been blown further inland, but may also have eroded parts of the site. In fact, the 8-m high dunes now covering part of the site were created by eolic accretion, i.e. sand being “caught” by the vegetation, creating slowly growing dunes. This may have started sometime during the past five centuries.

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9 There are, in fact, too many factors to take account of. For example, if during prehistory the site was located behind a row of dunes rather than directly on the beach, the N-transforms would have been completely different, for instance, no marine accretion of sand, less eolic erosion, etc.
4.4.2 C-transforms

Map 3. Past and predicted future coastline at Brighton Beach: blue area = erosion 1972-2008; green line = coastline in 20 years; red line = coastline in 50 years (adapted from Taylor 2010: Figure 70).

The activities of the pre-contact inhabitants of the area shaped the landscape in minor ways. For example, the thick layer of bones and shell in Unit B and the lack of such a layer in Unit A seem to indicate the presence of particular food midden areas at the site for at least the later phase of habitation. It is difficult to surmise if any other intentional or unintentional pre-contact landscaping processes played a role in the deposition of archaeological materials.

At present the area of the site is subject to three cultural transformational processes: minor looting, house construction and sand mining. Minor looting is shown by small to medium-sized holes in the beach cliff profile, which in all likelihood held a particular interesting piece of pottery. If this is the result of a (group of) individual(s) that regularly revisit the site or of opportunistic collectors is not known. The construction of houses in the area has impacted the northern, but likely not the western margin of the site. It is difficult to gauge precisely how much of the site has been destroyed due to the construction of the houses, but it was likely significant: perhaps up to 3000 m² (or 0.75 acres).

The biggest cause of erosion at the site is sand mining, which at the moment far outpaces the natural processes of accretion at the site. Sand mining has been going on illegally since 1992, but has been made legal since 2000 (Taylor 2010). It targets the sands of the dunes and the beach, which leaves the site vulnerable to natural erosive processes such as action by wind and waves. The 8-m high dunes at the northern margin of the site have been excavated completely and the beach has receded in all 50 m since 1972. Even more destructive is the actual removal of sand containing archaeological layers to be used for construction, which is done without any form of archaeological documentation. In this way the complete northern portion of the site has been destroyed: at least 7000 m² (or 1.72 acres). Although sand mining has ended in the southern part of the site, where most excavating took place, from photos taken in 2008 it is clear that a large extent of beach containing archaeological materials (perhaps up to ±5000 m² or 1.23 acres) has been
removed in a period of 18 years. In fact the prognosis is that if this activity continues unabated for another 50 years most of Brighton Valley will then be claimed by the sea (see Map 3).
5 | Preliminary results of the excavation and survey

Map 4. Units and shovel tests at the Brighton Beach site, 2011.
5.1 Shovel tests

After a full survey of all exposed surfaces and profiles in Brighton Valley as far as the Diamond River, the Brighton site seems to be the only archaeological place of interest in this region.10 There are several areas which could be mistaken for separate sites, because between these findspots there are no exposed surfaces or profiles showing archaeological materials which may thus be hidden in the soil. Moreover, the western margin of the site is also unknown. These were the reasons that shovel tests were started in all still undisturbed areas of the site at the beginning of the third week of the field season.

Thirty-six shovel tests were excavated, to be divided into three different groups, reflecting different shovel test strategies. Shovel tests 1 and 2 were placed at a slightly elevated location at the foot of and in the dune close to Unit A (12.90 m instead of the average of 12.50 m) in order to test whether the dunes were of recent origin. Shovel tests 3, 4 and 5 were set out on the surface of the still preserved parts of the central-northern margin of the site. This was done in order to test for the presence of Cayoid and Suazoid pottery in the stratigraphic layers of this area. Shovel tests 6-36 were dug in the pasture behind the dunes. In this way the western and north-western extension of the site could be estimated.

5.1.1 Results of Shovel tests 1 and 2

Shovel test 1 (FND98) at the foot of the dune yielded 816 g of archaeological materials (95 g ceramic remains; 4 g vertebrate bone remains; 717 g shell) at 20-40 cm depth (12.50 m). Shovel test 2 was set 1.5 m into the dune at the same base elevation as Shovel test 1 (12.90 m). Here, too, archaeological materials were recovered at 20-40 cm depth, in all 197 g (58 g ceramic remains; 3 g vertebrate bone remains; 136 g shell). The diagnostic material consisted of a Cayoid rim sherd and Late Saladoid pottery. These were highly relevant results, because they proved that: (1) at least 20 cm of the archaeological layer had been eroded prior to the time of the fieldwork11, and (2) that the dunes postdate the most recent Cayoid material at the site (i.e. after ca. AD 1300-1600).

5.1.2 Results of Shovel tests 3, 4 and 5

Shovel tests 3 and 4 were placed on top of a promontory of the beach cliff that showed a number of Suazoid finger-indent ed rims on the surface. Shovel test 3 (FND104) at around ELV 12.15 m yielded 266 g of archaeological materials (4 g lithics; 261 g ceramics; 1 g charcoal). Shovel test 4 was placed directly below Shovel test 3 at ELV 11.65 m and yielded 488 g of materials (92 g lithics; 395 g ceramics; 1 g charcoal). The diagnostic sherds in both shovel tests indicate a layer of Late Saladoid material. Shovel test 5 was placed at ELV 12.05 m and yielded 2186 g of archaeological materials (182 g lithics; 2003 g ceramics; 1 g charcoal). The majority of the diagnostic material consisted of Late Saladoid/Troumassoid rims. However, three feet of a Suazoid footed griddle or pot were also recovered.

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10 Although strictly speaking it is not part of the valley, there is a real possibility that Milligan Cay harbours finds of archaeological interest. Local people informed us of “lines on a rock just like were found at Argyle.” The team tried to charter a boat to make a closer inspection of the island, however, the charted captain did not appear at the agreed time and place.

11 The surface of the shovel tests was situated 40 cm higher than the rest of the surface around unit A and material was encountered in them down from a depth of 20 cm, i.e. 20 cm higher than the surface around unit A.
5.1.3 Results of Shovel tests 6 up to 36

Shovel tests 6 up to 36 were placed in six rows, mutually spaced roughly 30-35 m (with the exception of the two most northern rows), on the pasture behind the dunes and extending some 200 m in south-southwestern to south-southeastern direction. Shovel tests 7, 8, 13, 14, 16-22, 24, 25, 27-31, and 35 yielded non-modern cultural materials in excess of 20 g. All data recovered from the shovel tests are recorded in the appendices (see attached report BRI11-0.2). In general, there was more archaeological material in the shovel tests that were closest to the dunes, with the total material weights dropping in case of those further west and a break-off point at which less than 20 g of material was encountered at a third of the width of the pasture (see Map XXXXX). The diagnostic ceramics encountered in the shovel tests were all indicative of the Late Saladoid/Troumassoid with even a Late Saladoid adorno in Shovel test 18. The elevation at which materials were encountered is roughly equal to the upper layers of archaeological material encountered in Units A and B and Shovel tests 1 and 2 at the other side of the dunes (12.30±50 cm). This shows that at present the width of at least the Late Saladoid component of the Brighton Beach site extends 90-100 m from east to west.¹²

5.2 Beach cliff and unit profile wall features

The recovery of features was not one of the goals of this field season and, consequently, the excavation techniques employed were not geared towards that purpose (e.g. no skimming of

¹² In fact, the original site would have extended at least a further 5 to 50 m before it was hit by beach erosion.
large surfaces). Furthermore, recognition of feature levels on the surface of excavated squares was made difficult because of the fine sands constantly blowing on cleaned surfaces because of the high winds at the site.

Nonetheless, it was possible to recognize the sections of 18 features in the beach cliff profile and unit profile (e.g. F1 in this report). Although there was no time to recover the surface level at which these sectioned features could be recognized, it was possible to recognize three possible feature levels in the profile of the beach cliff and the units. The identification of the first level is tenuous, but, if present, should be directly below the surface from 0-10 cm down. There is a second feature level around level 8-9 visible in Unit A and possibly in Unit B as well (between ELV 11.60 and 11.70 m). The third possible feature level is in geological layers IIIa and IV, extending downward into the otherwise sterile mother layer.

Seven postholes were identified (F2, F4, F14, F15, and F17-19) with two more tentative identifications (F7 and F8). Three pit-shaped features were identified (F1, F5 and F16) with two more tentative identifications (F12 and F13). Three pits with red clay concretions, flecks of charcoal and small amounts of ash (F9-F11) in section 5-12 were tentatively interpreted as hearths (drawings 4, 6 and 7). Of the hearths F9 is the clearest example.
Three separate units were excavated, two of them in the southern part of the site directly on the edge of the beach cliff yielding Cayoid/Late Saladoid/Early Saladoid materials and one of them in the largely destroyed Cayoid/Suazoid/Late Saladoid area of the site to the north. The 4×3-m Unit A consists of squares 25-08-03 to 25-08-06, 25-08-13 to 25-08-16, and 25-08-23 to 25-08-26. The choice of unit location was based on the fact that the surface yielded a relatively high amount of Cayo pottery. The 3×2-m Unit B consists of squares 15-87-15 to 15-87-17 and 15-87-25 to 15-87-27 and for comparative purposes was placed close to the 2×1-m testpit of the SVGNT. Unit C is a 1×1-m pit. Its location in the all but destroyed east-central to northeastern part of the site was deemed an important addition, because its surface yielded a high number of Suazoid finger-idented rims. However, after excavating 1.20 m of sterile sand a layer of Late Saladoid material was encountered. No late material was recovered from Unit C at all.
Ceramics comprise the main artifact category that was targeted for during the excavations at the site. Potsherds were recovered in large quantities at the Brighton Beach site, which fits with the research questions the team set out with. The site also yielded finds of bone, stone and shell, albeit in much fewer quantities than the ceramics.

Generally speaking it is possible to distinguish the following spatial patterns in the units. Unit A had sparse lithic, shell and vertebrate bone materials, but a large amount of ceramics in layers 3-6. Unit B had a large quantity of bone and shell with relatively few ceramics in the higher layers (1-3, associated with geological layer Ia; see attached report BRI11-0.3). In the lower layers of both units there was, in general, a lower quantity of finds. Yet, the layers just above sterile soil contained more finds of all categories than the layers above them (15-18). Layers 3-6 of Unit A indicate that the area was a spot for ceramic refuse for some time, but no other waste seems to be present. Layers 1-4 in Unit B show material that is consistent with a food refuse area.

The top stratigraphic layer of Unit C consisted of 12 arbitrary layers of sterile sand, which was remarkable seeing that its surface was relatively dense with Late Ceramic and colonial materials. Archaeological materials were finally encountered in layer 13 (at a depth of 125 cm below the surface of the ground). This cultural stratigraphic layer, which was also visible in the adjacent beach cliff profile, continued for at least 30 cm at which depth the unit’s loose sandy walls were too unstable to allow further excavation.

5.3.1 Ceramics

Pottery of various styles was present in Units A and B. Unit C yielded only Late Saladoid ceramics. Their formal, stylistic and technical characteristics are currently subject of further study by Mol, Boomert and Groot at Leiden University.

Modern ceramics can be found on the surface of the site and in the first 10 cm of some shovel tests (e.g. Shovel test 9). Colonial ceramics, including clay pipestems (FND29), are to be found on the surface of the entire site and in layer 1 of both units. A single, likely intrusive piece of possible European stoneware has been found in layer 4 of Unit A (FND21).

Indigenous colonial to late pre-contact ceramics were encountered in various places. Cayoid ceramics were encountered on the surface of the whole site, including on spots of its destroyed northern part. Cayoid pottery was also found in context in the test unit of the SVGNT, layers 1 and 2 of Unit A and layer 1 of Unit B. It is of the classic Cayo kind showing a matte, grey-brown to dark-brown surface colour and yielding many examples of the typically necked-jar form, such as those frequently found at other sites in St. Vincent (Boomert 1986; Hoogland et al. 2011). The Cayo ceramics found at Brighton are undecorated with the exception of one rim sherd of a necked vessel with a decorated handle and arm showing a hand-shaped appliqué (FND123). Suazoid ceramics were found on spots of the surface of the destroyed northern part of the site, but could not be found in context.

Late or Modified Saladoid ceramics are the predominant pottery ware encountered at Brighton Beach. They are to be found on the surface of the site, along the full extent of the exposed beach cliff that has archaeological remains, in layers 1-14 of Unit A, layers 1-12 of Unit B and layers 12-14 of Unit C. Some ceramics seem to have Troumassoid characteristics. This tendency towards style elements that became much used in the transitional phase be-
Figure 4. Ceramics found at Brighton Beach: (a) adornos and other face-depicting sherds; (b) dish; (c) black-zoned rim (d) white on red jar; (e) ceramics from the lower layers of the site; (f) ZIC sherd; (g) Sherd with orange, white and red slip; (h) whiteslipped sherd (i) blackslipped sherd with fine-line incision
tween the Saladoid and its posterior ceramic styles in the region could assist in defining the troubled Troumassoid style. This needs to be studied more detailedly when the Brighton Beach \(^{14}\)C dates become available. Especially layers 3-6 of Unit A yielded a large quantity of ceramics of which many were decorated with ZIC, WOR, red slip, white slip, black linear painting, and single and double line incision. Noteworthy finds from these layers are, among others, a semi-complete bowl (FND4), a large open platter (FND135), several (hollow-backed) adornos (e.g. FND27 and FND71), decorated wall and lug fragments (e.g. FND167 and FND200), and a large WOR-decorated rim and body sherd (FND17).

In some areas of the site a lower cultural stratum was encountered. The ceramics from this stratum are separated from the Late Saladoid material by a few layers in which no or almost no archaeological materials were found (e.g. layers 6-10 of Unit A). The pottery sherds from this stratum are generally much thinner than the Late Saladoid pieces. They also show seem to be darker and are much less often decorated, though this may partly be an effect of weathering. At present, it seems that these ceramics belong to a variant of early Insular or Cedrosan Saladoid. This means that there is an Early Ceramic Age component at the Brighton site. Hopefully dating of the associated material will allow further substantiation of these important finds.

A local collector, Mary Barnard from Montreal Estate, showed Boomert some pieces from a now destroyed area of the Brighton Beach site about 10 m to the south of the Diamond River, which had definite Early Ceramic characteristics. There was a concentration of these ceramics in and near Unit B as could be seen from the beach cliff profile. The geological layers in which these ceramics are located (layers IIIa,c,d and IV) consist of cemented old sandy deposits, making them very hard to excavate. In order to obtain a larger sample, the ceramics from the beach cliff profile were collected as well.

Unit A did not yield such a large concentration of these early ceramics. The pieces which were encountered are small (smaller than 3 cm), eroded and undecorated. The exception to this is the recovery of an almost complete (more than 75%) unrestricted, ellipse-shaped bowl with composite contour in layers 16/17 (FND181). This bowl shows a thin wall and brown-grey surface colour, just like the other sherds encountered in the early layers. A small, burned piece of Long Island flint and a pebble were encountered in this bowl (see section 5.3.2).

In Unit B pottery sherds were more frequently encountered in the lower layers than in those of Unit A. the majority of them is thin-walled, greyish brown and undecorated. Some of the ceramics are a bit redder in colouration and it appears that some of these potsherds have a red or white slip applied to them. However, due to the layer of cemented beach sand attached to many of the sherds, this is often difficult to observe. A small amount of these pieces show some decoration, mostly fine and broad line incision. One small zoomorphic adorn was found in layer 12 (FND198).
5.3.2 Lithics

The lithics of the Brighton Beach site were studied by Dr. Sebastiaan Knippenberg of the Faculty of Archaeology, Leiden University. Worked stone is not abundant at the site, in total only 26 artefacts were found in context during the 2011 field season (Figure 5). Materials encountered represent Long Island flint \( n = 9 \), chalcedonite \( n = 4 \), quartz/quartzite \( n = 3 \), andesite \( n = 3 \), European flint \( n = 2 \), hematite \( n = 1 \), petrified wood \( n = 1 \), jadeite-like greenstone \( n = 1 \), green jasper \( n = 1 \) and unidentified local volcanic stone \( n = 1 \).

It is remarkable that a large portion of the pre-contact lithics at the site is of non-local origin \( n \geq 11 \). Most interesting in this regard is the preponderance of Long Island flint, the source of which is the island of Antigua, roughly 450 km away (e.g. Figure 5c and d). This is not in line with the earlier findings of Dr. Knippenberg that show a drop-off in the use of Long Island flint south of the Guadeloupean archipelago. Here jasper from Martinique is normally more frequently encountered in the lithic assemblages (Knippenberg 2007). Also contrary to expectations, only one piece of jasper was found at Brighton Beach. Furthermore, the quartz/quartzite might be of non-local origin as well (e.g. from St. Lucia or Mustique) making non-St. Vincentian material the major component of the lithic materials encountered during the 2011 campaign at Brighton Beach.

Most of the worked lithics are flakes \( n = 15 \), either from local chalcedonite, quartz or exotic Long Island flint. Two cores were also found, one of Long Island flint and the other one of a chert material, possibly petrified wood (Figure 5a and b). Two colonial European flint artefacts, one a gunflint and the other one a small core, were found on the surface near or in Unit A.

The majority of the lithics derive from Unit A \( n = 17 \), concentrated in layers 2-4 and 15-17, which is in line with the concentration of ceramics. Exotic lithics are distributed equally from the upper to the lower layers. Special mention should be made of the (non-associated) finds of a mortar and a round grinding stone found in Unit A, layer 2 and layer

![Figure 5. Examples of lithic artefacts found at Brighton Beach: (a) petrified wood core; (b) Long Island flint core; (c) Long Island flint flake; (d) burned Long Island flint flake; (e) grinding stone; (f) broken St. Vincentian eared axe; (g) mortar.](image)
17, respectively (Figure 5:e and g). Of equal interest is a polishing stone found in layer 17. Finally, in layer 17 a dullish quartzite pebble, showing possible signs of burning, was found in a nearly complete bowl, together with a piece of Long Island flint with cortex.

Although Unit B had much less worked stone material than Unit A ($n = 5$), it has to be noted that both cores found at the site were from the lower layers (15 and 17) of this unit. In addition, a small, broken St. Vincentian eared axe was found in layer 6, just below the midden layer (FND 110; Figure 5:e). A flake from the butt of the axe is missing; probably it was broken off due to impact. The narrow part between butt and blade shows polishing due to hafting. The artifact is broken (judging from analogies with similar axes) cleanly into half, which seems to have been done on purpose. This intentional destruction, together with its location directly below the midden, indicates intentional deposition, perhaps reflecting ritual killing of the axe after its use-life had finished.

The shovel tests did not reveal areas of increased presence of worked or raw stone materials. Shovel test 17 yielded a roughly worked quartz crystal; all other shovel tests were empty of worked lithic finds.

### 5.3.3 Shell

Shell materials were encountered in the higher archaeological layers of Units A, B and C (layers 1-6) and in Shovel tests 1 and 2. Curiously, no shell was recovered from Shovel tests 3-36, although collecting shell was part of the shovel test strategy. Very few shells were recovered from layers 6 and lower of Units A and B. The find of a couple of associated tips of *Lobatus gigas* in square 25/08/25, layers 14-15, is an exception. Their constitution is rather porous. Probably, the poor circumstances for the preservation of shell coupled with a decreased number of them in the lower layers (i.e. not a midden area), make them a rare find. Layers 1-6 of Unit B held a relatively large number of shell items (see Table 1), which is consistent with the identification of this unit as a food refuse area. The shell presence in Unit A (layers 3-6) does not correlate with that of ceramics in this unit, i.e. there is no increase or decrease in shell weight with those in ceramic weight.

No shell specialist was present during the campaign, so species identification was done by a non-specialist. The following families, genera and species were identified, ordered from high to low presence at the site: West Indian Topshell (*Cittarium pica*), Queen Conch (*Lobatus gigas*), Fuzzy Chiton (*Acanthopleura granulata*), Keyhole Limpet (*Fissurellidae*), Tiger Lucina (*Codakia orbicularis*), and West Indian Murex (*Murex brevifrons*). **[Chicoreus is een subgenus, géén geslacht!]**

No land shells are present in the archaeological layers at Brighton Beach. No worked shell items or shell processing debris was found. Consequently, it seems that all shell material recovered at the site is the result of marine-focused subsistence practices.

<table>
<thead>
<tr>
<th>Marine shell in grams per layer of square 25/08/15 (Unit A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Layer 1</td>
</tr>
<tr>
<td>Layer 2</td>
</tr>
</tbody>
</table>
Layer 3 | 18  
---|---
Layer 4 | 0  
Layer 5 | 0  
Layer 6 | 5  

**Marine shell in grams per layer of square 15/87/26 (Unit B)**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Layer 1</td>
<td>631</td>
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<td>125</td>
</tr>
<tr>
<td>Layer 5</td>
<td>33</td>
</tr>
<tr>
<td>Layer 6</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 1. Marine shells per layer in Units A and B.

5.3.4 **Vertebrate (non-human) bone remains**

*Figure 6.* Sea turtle remains at Brighton Beach: left, outlines of a carapace; right, sea turtle ulna and humerus.
Vertebrate (non-human) remains had their highest presence in the upper archaeological layers of Units A, B and C (layers 1-6) and in Shovel tests 1, 2, 4, and 5. Curiously, no vertebrate remains were recovered from Shovel tests 3-36, although collecting these was part of the shovel test strategy. Bones were recovered in increasingly fewer numbers below Layer 6 in Units A and B. The lower levels of Unit B square 15/87/16 (layers 15-17) formed an exception as these showed an increase in bone material. Indeed, the beach cliff profile yielded a number of small bone fragments in layers IIIa and IV. Probably, circumstances for the preservation of bone material coupled with a lower quantity in total causes it to be uncommon in Unit A. Layers 1-4 of Unit B held a large number (see Table 2), which is consistent with its use as a food refuse area. The bone presence in Unit A does not correlate with that of ceramics in this unit, i.e. there is no increase or decrease in the weight of vertebrate remains with those in the weight of pottery. In contrast, Unit B does show some correlation between ceramic and bone weights.

No vertebrate remains specialist was present during the campaign and, as a result, species identifications were made by a non-specialist. Besides, no MNI of any species could be established. The majority of the recovered bones per taxa from Units A, B and C came from (reef) fish, followed by rodents, (sea) birds and reptiles, respectively. The following genera and species could be tentatively identified: agouti (*Dasyprocta* spp.), mice (*Mus* spp.), rice rat (*Oryzomys* spp.), loggerhead turtle (*Caretta caretta*), dog (*Canis lupus familiaris*) and peccary (*Tayassu* sp.).

Two drilled (peccary) teeth and a broken (peccary) tooth were found on the surface and in the first layer of Unit A and the third layer of square 25/08/15, respectively (see section 5.3.5). The animal species of the drilled teeth, likely used as pendants, has not been definitely identified yet, but a preliminary identification by the second author as peccary (*Tayassu* sp.) was corroborated by Yvonne Narganes Stordes of the University of Puerto Rico, Rio Piedras. It is noteworthy that peccaries do not belong to the original mammal fauna of St. Vincent and, consequently, the three peccary teeth represent objects deriving from the south, probably Trinidad or Tobago. A molar of a mammal was recovered from 15/87/26, layer 1, which is tentatively identified as a dog (*Canis lupus familiaris*). No other large, non-human mammal remains were encountered below the surface of the site. Large mammal remains that were encountered at the surface of the beach and hinterlands were cow and pig remains, evidently connected to contemporary butchering of these animals on-site.

The use of sea turtle as a source of food is attested by the find of a partly disarticulated, left front flipper in Unit B (Figure 6). It is possible that the sea turtle was not only used for its meat, however. Mrs. Kathy A. Martin of the SVGNT reports a correlation between the sea turtle carapaces and burials as visible in the beach profile. Although this could not be corroborated, (the outlines of) turtle carapaces were identified in squares 15/87/16, layer 2 and 25/08/04, layer 3 (Figure 6). Unfortunately, due to poor preservation the carapaces could not be recovered.

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13 In terms of grams the highest presence was that of sea turtle bone with in total around 520 grams for the sample squares.
Vertebrate material in grams per layer of square 25/08/15 (Unit A)

<table>
<thead>
<tr>
<th>Layer</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
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</tr>
<tr>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
</tr>
</tbody>
</table>

Vertebrate material in grams per layer of square 15/87/26 (Unit B)

<table>
<thead>
<tr>
<th>Layer</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>47</td>
</tr>
<tr>
<td>2</td>
<td>79</td>
</tr>
<tr>
<td>3</td>
<td>450</td>
</tr>
<tr>
<td>4</td>
<td>28</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>

Table 2. Vertebrate bone remains per layer in Units A and B

5.3.5 Human remains

Oral reports are available from previous visits to the site by Mrs. Kathy A. Martin and members of the Caribbean Research Group of Leiden University indicating that human bones, perhaps from burials, were visible in the profile of the beach cliff in its southern and middle stretches. However, no burials were encountered in context in any of the units or shovel tests. A possible outline of a burial was encountered in the beach cliff profile some 30
in layer 4 of square 15/87/15 an almost complete set of human deciduous teeth were found. These teeth were studied by Hailey L. Mickleburgh, MPhil of the Faculty of Archaeology, Leiden University. She concluded that the teeth belonged to a child aged between 6 months to 3 years. Aside from a brittle, small piece of jawbone attached to two of the teeth no other human bones could be found in this area, likely because of bad preservation. It is noteworthy that these teeth were found in the food refuse layers of Unit B. It is unknown if the child was interred in a primary or secondary burial or perhaps even unceremoniously disposed of together with other faunal material in the midden.

Jason E. Laffoon, while excavating layer 15 of square 25/08/06, encountered the extremely brittle remains of a long bone. Excavation was stopped, but after the bone was exposed to air and sunlight it immediately disintegrated, making it impossible to excavate or document it in any way. Nevertheless, Laffoon, an experienced human osteoarchaeologist, was sure that the bone was human. This is noteworthy, since a possible burial at this location would be associated with the find of the nearly complete bowl in layer 17 of square 25/08/15 (within 50 cm).

5.3.5 Paraphernalia

![Figure 7. Paraphernalia recovered during the 2011 field season at Brighton Beach: (a) incense burner fragment; (b) peccary teeth pendants; (c) bar of red ochre; (d) shell bead.](image)
Very few artefacts of the “paraphernalia” category (adornments, amulets, statuettes, ritual implements, etc.) were found at the Brighton Beach site during the 2011 field season. The near absence of pre-contact and colonial beads, even though all excavated soil was carefully sieved, is especially noteworthy, since Mrs. Kathy A. Martin found such objects on a regular basis during her fieldwalk inspections of the site (BRI11-0.5: 29-6).

One small bead was found on the surface of the ground near Unit A. Two perforated teeth, a canine and likely a front incisor of most likely a peccary, were also found in Unit A on the surface and in layer 1 (see section 5.3.4). Another item of adornment in the broadest sense of the word was a bar of red ochre found in square 25/08/05, layer 4. This object may have been used for e.g. body painting or as a pigment for a red clay slip.

The find of the fragment of a ceramic incense burner in square 25/08/13, layer 5, yields evidence for ritual activity at the site. This piece, of which a similar specimen is on display at the SVGNT St. Vincent Museum, Kingstown, has a circular hole at the centre of its closed top. Furthermore, a sooty layer is present on the interior part of the lid. This shows that this object was used in a ritual setting for the burning of herbs or leaves, the fumes of which could be inhaled through the hole in the top. Further analysis needs to be done in order to identify the species of plant used for burning, but it is likely that the plants burned had narcotic properties.
Aside from the scientific and heritage management objectives, one of the major goals of this field season was to keep up the high quantity and quality of the public outreach of previous Leiden University archaeological excavations on the island of St. Vincent. Therefore a variety of activities were organized in cooperation with the SVGNT for various segments of the population of this and other Caribbean islands.

These activities included a number of site visits arranged through the SVGNT. The first one was a visit by a group of eight students and three teachers from Barataria College, San Juan, Trinidad, who made an excursion to St. Vincent as part of their curriculum (Report BRI11-0.5: 23-6). The second site visit was by a group of about 35 students and six teachers of the Alliance Française from St. Vincent and Martinique (Report BRI11-0.5: 14-7). In the last two days of the excavation four groups of in all around 160 children and 20 supervising adults visited the site (Report BRI11-0.5: 20-7 & 21-7).

Impromptu site “visits” occurred on multiple occasions when people from the local area passed by the site. These visits proved to be particularly interesting for both parties: the archaeologist providing accounts of the (pre)historic past of the area and the visitor often acting as an informer on the recent history of the Brighton region. We were also pleasantly surprised with the help that two local volunteers and friends of Mrs. Kathy A. Martin, Mrs. Marcia and Mr. Arthur Lawrence, were able to give us during three mornings. They were of great help in excavating and sieving cultural layers 3-6 of several squares in Unit A.

A camera crew of the Agency of Public Information (API) also visited the site and the field laboratories (Report BRI11-0.5: 19-7 and 20-7). They filmed the activities on the site and in the laboratory. Furthermore, they conducted interviews with the fieldwork staff and Mrs. Marcia Lawrence about the importance of doing archaeology on St. Vincent and the site at Brighton Beach in particular. This footage was used for a programme that was broadcasted on Saturday, 30 July.

In addition to these activities, the second author presented on the results of the previous Leiden University excavations at Argyle at a meeting in the building of the SVGNT.
St. Vincent Museum, Kingstown. At this meeting several journalists were present. In conjunction with this meeting a small exhibition of some of the extra-ordinary finds at Argyle was put on display in the museum and a poster made by the Abgus Mol and Drs. Hofman and Hoogland with additional information on the Island Carib village at Argyle was displayed next to it.

In all more than 250 people were reached directly. An even larger segment of the population of St. Vincent will be informed indirectly through the media. Overall, public outreach was a successful and, according to all participants, very enjoyable part of the 2011 campaign.
7 | Preliminary conclusions

Although there are still a number of analyses that need to be undertaken in order to arrive at a profound conclusion regarding the results of the 2011 field season at Brighton Beach, a few general remarks and preliminary results can be presented.

7.1 Preliminary conclusions to research questions

It cannot be denied that the Brighton Beach site presents the archaeologist with the result of a troublesome, but also highly interesting set of depositional processes. Aside from the impact on the site from modern land use (discussed below), it can be concluded that the Brighton Beach cultural stratigraphy is exceptionally deep for such a coastal site, i.e. more than 3 m in Unit A and more than 1.70 m in Unit B, probably owing to a positive net deposition of alluvial and marine sands during the majority of its pre-contact and early colonial occupation. Ceramics are present in all areas of the site in nearly all geological layers, except for the layer with mother material. Bone and shell materials are present in moderately large amounts in the topmost geological layers with spots of increased occurrence such as in Unit B. In the lower layers the amounts of bone and shell fragments drop, likely due to poor preservation conditions of these materials in the lower layers. It seems that Brighton Beach holds some promise for excavations targeting features, since some of them could be identified in the profile of the beach cliff and Units A and B. The conditions for the preservation of human remains seem to be poor, because no preserved human bones were encountered, neither in the profile nor during the excavations. Perhaps the circumstances for preservation beneath the dunes are better than those on the beach.

The exact characterization of the ceramic styles encountered at Brighton Beach is pending further analysis by Dr. Groot and Dr. Boomert. It is obvious that the Brighton Beach site holds the entire chronological gamut of ceramic styles that has previously been encountered in St. Vincent. Suazoid materials were not recovered in context at the site during the 2011 field season, even though it was actively sought for. It is likely that the section of the site that held the Suazoid midden is completely destroyed. Cayoid, another late style, is present both on the surface and in the top layers of the site. The enigmatic Troumassoid or a similarly intermediate, transitional style, may also be present in the material from Units A and B. It is difficult to distinguish it from the Late (or Modified) Saladoid ceramics, however. No geological or other demarcation seems to lie between Late Saladoid material of the “pure” kind and, possibly later, pottery that shows possibly Troumassoid and other characteristics. This in itself is an interesting fact and promising research avenue. In this regard, the possibly Early Saladoid component at Brighton Beach makes things even more interesting, because its presence means that the ceramic record recovered during the Brighton 2011 excavations allows the tracing of Saladoid style characteristics from perhaps its earliest to its latest incarnations.

All the evidence recovered at the Brighton Beach site shows that it must have been the location of a large community during the majority of the pre-contact period in St. Vincent. It has to be said that the evidence unearthed during the 2011 field season shows that habitation at the location where the excavations took place was not equally intensive during all periods. Whether this means that the focus of settlement shifted location over different localities at the site or that Brighton Beach was not home to a village at certain
times, is impossible to determine with the data at hand. However, as the Brighton Beach site boasting an array of materials over an extended geographic and diachronic scale, further research might help to determine this particular aspect and flesh out the opportunities for research on cultural chronologies with a more full-fledged, diachronic view of Saladoid lifeways.

The identification of an Early Ceramic Age component at the Brighton Beach site is important for the site’s regional interpretation. What is more, this will be an important addition to the archaeology of the Windward Islands, seeing that it has now become accepted in some circles that there were no Early Ceramic Age settlements in the Windward Islands, meaning that these islands were colonized by ceramic-using people much later than the rest of the Caribbean Islands. If Brighton Beach indeed boasts an Early Ceramic Age component and even an early feature level it falsifies that hypothesis, which will have a huge impact on the writing of pre-contact history. Hopefully the dating of associated material will allow further substantiation of this important find. Furthermore, Dr. Groot will perform a compositional analysis of the ceramics encountered in both the late and early layers at Brighton Beach, which will provide an even more detailed perspective.

In conclusion, it can be said that the 2011 field season at the Brighton Beach site was a success, especially viewing the time and personnel constraints. For the first time the true breadth of the Brighton Beach site has been shown to be more extensive in both time and space than was previously thought. What is more, all research objectives targeting the cultural history of the site were met and some of them have even been surpassed, e.g. the curation of a large collection of ceramics from the interesting Late Saladoid to Troumassoid period. Furthermore, thanks to the cooperation between Leiden University and the SVGNT, the public outreach programme has been, once again, very successful. Nevertheless, the one-month field season was necessarily restricted to be exploratory in nature and many possible avenues of research have been encountered that cannot be followed up without more laboratory and fieldwork research. This year’s excavations have proven beyond a shadow of doubt that the Brighton Beach site is of immense value both for research and heritage purposes.
7.2 Heritage Management Recommendations

Map 6. Threat of destruction for archaeological heritage per area at Brighton Beach.

The scientific results of the excavation units and shovel tests in combination with a recent report by Ocean Earth Technologies (Taylor 2010) are extremely important for any further management of the pre-contact archaeological heritage at Brighton Beach. The beachside of the site is under severe threat by marine erosion due to the removal of beach sand for construction purposes. The portion of the site below and behind the dunes is not critically threatened. However, according to the report’s prognosis, the site will be destroyed by coastal erosion within twenty years. This means that, bar any radical changes such as a costly beach reconstruction, the beachside of the site will be destroyed within 1-2 years. The section of the site below and behind the dunes is not critically threatened. However, according to the report’s prognosis, the site will be destroyed by coastal erosion within twenty years. This is an estimate since a storm surge will significantly speed up the process.
beyond the dunes can be left in place if sand mining at Brighton Bay comes to a complete halt. At any rate close watch should be kept on future construction activities in the area, as this has been divided into lots which are currently for sale. If sand mining continues, after five years the sea will advance as far inland that this part of the site will also become severely threatened. The northwest portion of the Brighton Beach site, which is not currently protected by any dunes, will be lost before a major storm surge occurs. This means that the entire Brighton Beach site should be marked as an endangered cultural heritage site of St. Vincent. For the beachside of the site the threat is severe and immediate.\textsuperscript{15}

In short, this means that large scale excavating of the roughly 1000 m$^2$ of the beach area remaining of the site is imminent and should be undertaken within one or two years. In terms of the long-term management of the cultural resources of St. Vincent and The Grenadines, the Leiden University 2011 field season underwrites the importance of the results of the report by Ocean Earth Technologies. This means that sand mining activities at Brighton Beach should be halted for at least a couple of years until the beach has once again expanded due to natural accretion. If this is not possible, the Brighton Beach site should see a large scale excavation programme within the next 1-5 years. If both these means of either in-situ protection or rescue archaeology prove to be unachievable, the important national and international heritage remains located beneath the soil of Brighton Beach will be lost forever.

\textsuperscript{15} Of course, the immobile property in Brighton Beach Valley and the land that is marked for future housing development are also severely threatened.
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- Hofman, Corinne L. (1993) *In search of the native population of pre-Columbian Saba (400-1450 A.D.).* Unpublished PhD dissertation, Faculty of Archaeology, Leiden University, Leiden (269 pp.).

Attachments:

- Report BRI11-0.2: Report of the shovel test campaign.
- Report BRI11-0.3: Geological layers report.
- Report BRI11-0.4: Topographical survey report.
- Report BRI11-0.5: Compendium of daily reports.
- Report BRI11-0.6: Findnumber list.