



MANAGING OUR PAST INTO THE FUTURE

ARCHAEOLOGICAL HERITAGE MANAGEMENT
IN THE DUTCH CARIBBEAN

EDITED BY

CORINNE L. HOFMAN & JAY B. HAVISER

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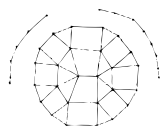
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TABOUI NO. 3

COLLECTION D'ARCHÉOLOGIE CARAÏBE
DIRIGÉE PAR BENOÎT BÉRARD

IN MEMORIAM

Willem J.H. WILLEMS

(1950-2014)

A dear friend and colleague

Champion of archaeological heritage management

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Preface

The first ideas for this volume were born at the symposium ‘The archaeology of the Netherlands Antilles and Aruba’ organised by Corinne Hofman during the 16th annual meeting of the European Association of Archaeology (EAA) held in The Hague, The Netherlands in September 2010, one month prior to the dissolution of the Netherlands Antilles.

This EAA meeting was organised by the Faculty of Archaeology, Leiden University, the Department of Archaeology of the Municipality of The Hague and the Cultural Heritage Agency (Ministry of Education, Culture and Science), with financial support from the Ministry of Culture. The chair of the steering committee was our dear colleague and friend Prof. dr. Willem Willems (1950-2014), professor of Archaeological Heritage Management, he participated in the Council of Europe committee that drafted the Malta Convention and he was a world-leader in international heritage policies. As a heritage expert Willems was involved in the Synergy project ‘Nexus 1492. New World encounters in a Globalizing world’ financed by the European Research Council to advise on archaeological heritage management in the geopolitically complex and diverse region of the Caribbean. Although Willem had originally agreed to write the forward for this book, he unfortunately passed away very suddenly, thus to still have him as a part of this effort we dedicate this volume in recognition of his contributions to world heritage.

We thank all the participants who presented at the symposium during the EAA in The Hague, i.e. Menno Hoogland, Jay Haviser, Raymundo Dijkhoff, Hayley Mickleburgh, Harold Kelly, Alistair Bright, Benoit Bérard and Grant Gilmore, of whom several contributed to the present volume. We also thank Claudia Kraan, Arsano Richenel, Marlene Linville, Ruud Stelten, Francois van der Hoeven, Fred Chumaciero, Ryan Espersen, Helena Boehm, Jochem Lesparre, Louis Nelson and Maaïke de Waal who were not there in The Hague but whose contributions have been essential to this book. We are indebted to the Netherlands Organisation for Scientific Research (VICI-grant nr. 277-62-001) and the European Research Council (Nexus1492 Synergy grant nr. 319209) for the financial help in organizing the symposium and producing this volume. We are extremely grateful to Dr. Arie Boomert and Dr. Andrzej Antczak for reviewing the manuscript. Liliane de Veth is acknowledged for her help in preparing the manuscript for final publication.

Finally, we would like to acknowledge all the students, volunteers, GOs, NGOs and local communities with whom we have engaged throughout the years and who have been participating in several projects presented in this volume. Their participation is crucial for the managing of our past into the future!

Corinne L. Hofman and Jay B. Haviser
April 2015

Contributors



Editor. Professor Dr. Corinne L. Hofman is professor of Caribbean archaeology and directs the Caribbean Research Group at the Faculty of Archaeology, Leiden University. Hofman has carried out archaeological research in the Caribbean since the 1980s. Her primary interests are the communication systems and interaction networks of the indigenous populations in the period before and after the European colonization of the Americas in 1492. Currently, she is corresponding principal investigator of NEXUS 1492, 'New World encounters in a Globalizing World', a synergy project supported by the European Research Council.



Editor. Dr. Jay B. Haviser is currently the island archaeologist of St. Maarten and director of SIMARC. He is also president of SABARC and BONAI. He has conducted numerous fieldwork projects on all the islands of the Dutch Caribbean, and was the archaeologist for the AAINA (and later NAAM) based on Curaçao between 1982 and 2007. He received his doctorate from Leiden University in 1987, and is currently also an affiliated researcher at the Faculty of Archaeology, Leiden University.



Richenel Ansano holds an MA in Anthropology from Rutgers University. From the mid 1980's through 2000 he has functioned successively as head of Research, Cultural Policy Advisor and director of the Cultural Affairs Office of Curaçao. Recently, he has taken the position of director of the National Archaeological Anthropological Memory Management Institute in Curaçao. His main interests in CRM are in the areas of integral management, identity politics and sustainable development.



Helena Boehm obtained her MA from Leiden University in 2013. Her MA thesis focuses on museum and heritage issues on the island of Saba.



Fred Mendez Chumaceiro holds a BA in Electronics Engineering Technology from DeVry Institute of Technology. He designed and developed many hardware and software projects including communication systems, oil sampler control systems, meteorological telemetry systems. Currently, he is a member of the IEEE and the Archaeology Working Group of the NAAM and National Archaeological Memory Management on Curaçao. Together with François van der Hoeven he carries out weekly archaeological surveys on Curcaao.



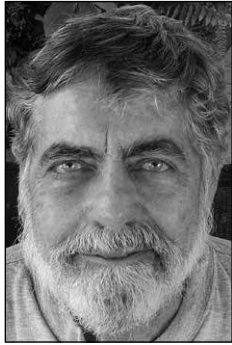
Raymundo Dijkhoff holds a MA in Archaeology and Culture History of Indigenous America at Leiden University. Since 1999 he is employed as an archaeologist at the National Archaeological Museum Aruba and as the head of its scientific department.



Ryan Espersen holds a RMA from Leiden university (2009). Currently he a Ph.D. candidate at Leiden University and his research focuses on the development of slave lifeways between the colonial-era Dutch Antilles. For his doctoral studies he is part of the Initial Training Network-EUROTAST. Furthermore, he has been guiding the SABARC group on Saba since 2011.



Dr. R. Grant Gilmore III has been a professional Historical Archaeologist since 1995. He received his doctorate from the University College London in 2004, his research focused on examining the African Diaspora in the Atlantic World. During the past seven years, he established and ran the St. Eustatius Centre for Archaeological Research (SECAR) until 2011. Currently, he serves on UNESCO/ICOMOS's International Committee for Archaeological Heritage Management (ICAHM).



François van der Hoeven is Doctorandus (Drs.) in Social Geography at the VU University Amsterdam. As a retired Secondary school teacher, he became involved in organizing archaeological surveys for Pre-historical and Historical Archaeology. In 2000 he became secretary of the Foundation for Maritime Archaeology in Curaçao and is a member of the Work Group Archaeology at NAAM and the Monument Council, both in Curaçao.



Dr. Menno L.P. Hoogland is the director of the Osteoarchaeological Laboratory at the Faculty of Archaeology at Leiden University, and a senior researcher in the NEXUS 1492 ERC-synergy project. He has thirty years of experience in archaeological research in the Caribbean and a number of CRM projects on the Dutch Caribbean Islands of Curaçao, St. Maarten and St. Eustatius. He has a special interest in indigenous settlement organization, residential structures and mortuary behaviour.



Claudia Kraan holds an MA in Pre-Columbian Archaeology and Cultural History from Leiden University. She works as an archaeologist at the NAAM in Curaçao and is member of the Monument Council. Her fields of interest are archaeological heritage management, anthropology and archaeology of consciousness. Her main interest lies in CRM policies for the islands of Curaçao and Bonaire.



Jochem Lesparre is geodetic engineer at the Cadastre, Land Registry and Mapping Agency and at Delft University of Technology (the Netherlands). He also teaches geoinformatics in archaeology at Saxion University of Applied Sciences (the Netherlands), a topic he previously taught at the University of the West Indies (Barbados). He is partner in ARGEOgraph, an archaeological company specialized in geoinformatics in archaeology.



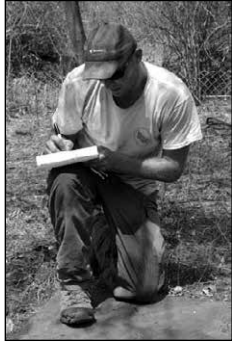
Dr. Marlene S. Linville got her PhD in Anthropology (Archaeology) from the Graduate School and University Centre of the City University of New York in 2005. She is an associate researcher of the National Archaeological Museum Aruba, and a founding member of the Editorial Board of the museum's journal, *Ceque*. Her interests are the study of shells in the Circum Caribbean and she contributes to educational initiatives promoting and preserving cultural traditions in the Americas.



Dr. Hayley L. Mickleburgh is a postdoc at Leiden University and specializes in the archaeology of human remains. During her PhD research at Leiden University she studied several collections from the Dutch Caribbean, focusing on patterns of human dental wear and dental pathology in the precolonial Caribbean. Her current research focuses on the transformations in mortuary practices across the historical divide (AD 1000-1800) in the Circum-Caribbean.



Dr. Louis Nelson is an associate professor of Architectural History, the associate dean for Research and International Programs in the School of Architecture, and the Director of the Program in Historic Preservation at the University of Virginia. He directed the Falmouth Field School in Jamaica and did research on St. Eustatius. His work focuses on the Early American South, the Greater Caribbean, and the Atlantic Rim.



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Part one

Archaeological Heritage management in the Dutch Caribbean

Introduction

The current status of archaeological heritage management (AHM) in the Dutch Caribbean

Corinne L. Hofman and Jay B. Haviser

Introduction

When the Netherlands Antilles became an autonomous entity within the Kingdom of the Netherlands in 1954, its government did not immediately follow the existing Dutch regulations on cultural heritage management. Each of the six islands within this Netherlands Antilles entity, i.e. Aruba, Curaçao, Bonaire, Saba, St. Eustatius (Statia), and St. Maarten (St. Martin), semi-independently developed its own island heritage regulations and institutions building on the foundation of a Dutch law from 1944 and a subsequent amendment in 1960 regarding the administration of archaeological and culture-historical properties. The development of archaeological heritage management (AHM) has been slow and was not effectively enforced in the early years, often allowing for blatant site looting and poor preservation of archaeological sites. In 1967 the Archaeological-Anthropological Institute of the Netherlands Antilles (AAINA) became the first official institution created to facilitate and supervise archaeological research and collections management on the six islands. In the 1970s additional aspects of Dutch preservation laws were accepted in the Netherlands Antilles, with more detailed Netherlands Antilles regulations ratified in 1989, and eventually implemented through the Central Government administration of the six islands. However, the actual implementation of these regulations and laws remained a matter left to the discretion of the individual island governments and their level of implementation differed from island to island.

The Dutch Caribbean islands are located within the multi-ethnic and multi-lingual circum-Caribbean region. This area includes the Greater Antilles (Cuba, Jamaica, Hispaniola, Puerto Rico), the Bahamas, the Virgin Islands, the Lesser Antilles (between Trinidad and Anguilla), the southern Caribbean islands (Venezuelan and Dutch), the mainland areas of northern South America, the Caribbean coast of Central America and the Isthmo-Colombian area (including Costa Rica, Panama, western Venezuela and northern Colombia). The Dutch Caribbean specifically consists of two groups of



Figure 1.1: Location of the Dutch Winward and Leeward Islands in the Caribbean island chain.

three islands each: the Dutch Windward Islands, Saba, St. Eustatius, and St. Maarten, situated in the northeastern Caribbean island archipelago, and the Dutch Leeward Islands, Aruba, Curaçao and Bonaire, located along the northwest Venezuelan coast in the southern Caribbean (Figure 1.1).

Each of the six islands experienced a variety of culture-historical development processes, and as a result they had a diverse array of emphases on material culture studies, archaeological investigations, and AHM programs, ranging from the activities of amateur antiquities collectors in the 19th century to the extensive professional research of the last 25 years. Aruba, which has been an autonomous part of the Kingdom of the Netherlands since 1986, followed its own trajectory in cultural heritage management. It has a well-organized museum, the National Archaeological Museum Aruba (NAMA) with a scientific department, a collections management section, and professional archaeologists operating since several decades.

After the dissolution of the Netherlands Antilles entity on 10 October 2010, Curaçao and St. Maarten also obtained the status of autonomy within the Kingdom, and independently these islands have been working on their AHM legislation. As well from that 10-10-10 date, Bonaire, St. Eustatius and Saba have become special overseas municipalities of the Netherlands, and consequently fall under (European) Dutch regulations, albeit with some minor local authority regarding land use and preservation. In the last 25 years, and partly due to the active role of localized island-specific archaeological institutions, such as the National Archaeological Anthropological Museum (NAAM) of Curaçao, the St. Eustatius Center for Archaeological Research (SECAR), the Bonaire Archaeological Institute (BONAI), the Sint Maarten Archaeological Center (SIMARC), and the Saba Archaeological Center (SABARC), slowly but surely AHM is now developing more specifically on all of the six islands. Besides, the Valetta Treaty is on the path of being more broadly implemented on each of them. This volume is a review and assessment of the current progress towards a stronger and more effective AHM in the Dutch Caribbean.

Overview of archaeological research in the Dutch Caribbean

Early years

Throughout the 1870-80s a Roman Catholic priest, Father A.J. van Koolwijk, conducted amateur investigations at various prehistoric and historic archaeological sites on the Dutch Leeward islands of Aruba, Curaçao and Bonaire. Van Koolwijk wrote numerous descriptive and rather speculative letters to the Dutch National Museum of Antiquities in Leiden (1879), the director of which, C. Leemans, subsequently published some of the results of van Koolwijk's research (Leemans 1904). In the Dutch Windward Islands of Saba, St. Eustatius and St. Maarten the earliest archaeological investigations were made by the ethnographer J.P.B. de Josselin de Jong in the 1920s. His work was far less speculative than that of van Koolwijk and indeed it has been credited for belonging to the first stratigraphic excavations conducted in the Caribbean region (de Josselin de Jong 1947). Subsequent to these early research endeavors, by the mid-20th century avocational archaeologists predominated as the recorders of heritage sites on the islands. These collectors had minimal concern for proper cultural resource management, albeit fortunately their mostly un-provenienced find assemblages have resulted in many of the island museum collections. In the Dutch Leeward Islands this early amateur work was largely conducted by Elis Juliana and Father Paul H.F. Brenneker O.P., and in the Dutch Windward Islands it was carried out by Hyacinth Conner, as well as the Walter Buncamper and Japa Beaujon families, among others.

The emergence of the AAINA and increased professionalism

As noted above, in 1967 the Netherlands Antilles government decided to create a specific institution for the research and maintenance of archaeological sites and collections, the Archaeological-Anthropological Institute of the Netherlands Antilles (AAINA). The AAINA was the brain-child of Edwin Ayubi, a Curaçao-born art historian of Lebanese descent, who briefly studied archaeology in Europe. Among the original staff of the AAINA with Ayubi, was Elis Juliana. As the director of the AAINA, Ayubi recognized his professional limitations and, among his other important contributions, he was able to bring into the AAINA various professional archaeologists and anthropologists to conduct the investigations required. Among the professionals the AAINA employed were in the 1970s the archaeologist Egbert H.J. (Ep) Boerstra and in the 1980s the anthropologists Rose-Mary Allen and Eric La Croes, and the archaeologists Jay B. Haviser, Nadia Brito and Wilhelmus P. (Wil) Nagelkerken.

One of the key early functions of the AAINA was to supervise foreign (primarily North American and Dutch) archaeological research programs being conducted on the Netherlands Antilles islands. The earliest of these foreign programs was an archaeological field school carried out by the College of William and Mary, Williamsburg, Virginia, USA, on St. Eustatius from 1981 to 1986. This field school was under the direction of Norman Barka. Almost simultaneous to the William and Mary historical research program on St. Eustatius, Leiden University conducted archaeological excavations of prehistoric sites on this island under the

direction of Aad H. Versteeg (1983-1986). Both of these foreign research programs on St. Eustatius were supervised for the AAINA by Jay Haviser. The finds recovered during these excavation programs were transported to the respective universities carrying them out for further research, and thus the cultural resource management of these artifact collections was not an immediate requirement of the AAINA itself.

Into the 1990s, as some of these collections began to be returned to the AAINA, the need for a proper management program was implemented, albeit on a relatively basic level. In 1998, as a part of a series of cost cutting measures by the Netherlands Antilles government, the AAINA was formally dissolved and a government-sponsored foundation was created to continue the collections management work required. This new foundation was called the National Archaeological Anthropological Museum (NAAM), and Edwin Ayubi became its first director. Still before the dissolution of the Netherlands Antilles on 10 October 2010, the NAAM had been transformed into a foundation subsidized by the island of Curaçao, changing its name to the National Archaeological Anthropological Memory Management Foundation (NAAM) in 2008. It shifted its emphasis from archaeological fieldwork to collections management.

Leiden in the Caribbean

As mentioned, the Leiden interest in the Caribbean goes as far back as the 1920s when J.P.B. de Josselin de Jong, then functioning as a curator at the National Museum of Ethnology, Leiden, organized an archaeological expedition to the Netherlands Antilles. He conducted research on all six islands and his publications of the 1940s belong to the earliest archaeological fieldwork reports on the archaeology of the Caribbean. In the 1970s the Leiden archaeology student Ep Boerstra carried out research on Curaçao for his MA thesis under the direction of Professor Dr. Pieter J.R. Modderman. He later became the island archaeologist of Aruba. In the 1980s Modderman's successor, Professor Dr. Leendert P. Louwe Kooijmans, and Aad H. Versteeg initiated the PREBONA (Pre-Columbian Occupation of the Netherlands Antilles) project funded by the Dutch Organisation for Scientific Research/Netherlands Foundation for the Advancement of Tropical Research (NWO/WOTRO), introducing large open-area settlement archaeology to the Caribbean, first on St. Eustatius, later on Aruba (Versteeg & Schinkel 1992; Versteeg 1997). Eventually Jay Haviser of the AAINA became a student of Louwe Kooijmans, receiving his doctorate from Leiden University in 1987 (Haviser 1987).

In the 1980s Corinne L. Hofman and Menno L.P. Hoogland of Leiden University started research on Saba. At that time archaeological fieldwork in the Caribbean was conducted at a very small scale and was principally island-centric based. However, long-term projects were possible due to financial support primarily from research institutions such as the Netherlands Foundation for Scientific Research (ZWO) and Leiden University with further aid from cultural organizations such as the Consultation Organ for Cultural Cooperation in the Netherlands Antilles (OKSNA) and the Nederlands Museum voor Anthropologie en Praehistorie, Amsterdam. Until the 1980s Caribbean archaeologists used typically refuse midden archaeological techniques. Small and limited excavation

units of only a few square meters were excavated in dense archaeological deposits with the aim of constructing typologies and cultural chronologies. Golden Rock on St. Eustatius became the site where, following Dutch archaeological practices, the first large open-area excavations were carried out in the Caribbean by a Leiden University team under supervision of Aad H. Versteeg (Versteeg & Schinkel 1992). Initially criticized by the Caribbean community of archaeologists and seen as destructive because of the utilization of mechanical excavators, later on scholars were impressed by the valuable results obtained: Caribbean archaeology was finally moving away from interpretations dependent on artifact-based midden archaeology towards insights obtained from the spatial organization of sites and settlement layout. In the 1990s' Hofman & Hoogland both defended their dissertation at Leiden on the Amerindian archaeology of Saba (Hofman 1993; Hoogland 1996).

Today, the pre-colonial and early colonial periods form the focus of most research at Leiden University as well as the mobility of people and the exchange of goods and ideas from a pan-Caribbean perspective. This approach emphasizes insights from different disciplines, including archaeology, archaeometry, bioarchaeology, network science, ethnohistory, and ethnography. In the scope of this research trend there has always been a reflection upon the archaeology and heritage preservation in the Dutch Antilles within a larger Caribbean frame of reference.

The formation of localized community-oriented organizations

During the last 15 years, directly due to an increased awareness of the value of local archaeological research among the individual island populations, various community-based archaeological institutions have been created. These institutions are all non-profit foundations, with the specific goal of community (and specifically youth) involvement in research, including education as to the scientific base of heritage research, and the needs for properly controlled cultural resource management with full respect for community perspectives. The first of these institutions was established on St. Eustatius by R. Grant Gilmore III in 2000, i.e. the St. Eustatius Center for Archaeological Research (SECAR). Three institutions have been established by Jay Haviser, namely the Bonaire Archaeological Institute (BONAI) in 2003, the Sint Maarten Archaeological Center (SIMARC) in 2005, and the Saba Archaeological Center (SABARC) in 2012. Each of these three institutions is supported by the respective local island governments, and is charged with education and community involvement with limited archaeological research for the islands. In the case of SIMARC it is formally entrusted by the St. Maarten government with the existing artifact collections and cultural resource management.

Preservation of the archaeological heritage in the wider Caribbean

The economic development and that of tourism in the Caribbean over the last 40 years are causes for the immediate attention to and protection of the islands' past and present tangible and intangible heritage. Next to many natural threats such as hurricanes, volcanic eruptions, tsunamis, and earthquakes, the continuous construction of mega-resorts, golf courses and other touristic entertainment

projects have had serious impacts on the region's archaeological sites, many of which have already been completely destroyed or heavily damaged (Hofman *et al.* 2012; Siegel *et al.* 2013).

Besides, the matter is complicated by the geo-political diversity of the Caribbean. The region is a mosaic of distinctive cultures, often with a lack of awareness of their past histories and not always able to communicate well with each other. The wide range of stakeholders involved in the heritage preservation process has created a situation in which many of the islands seem to be in a spiral of ineffectiveness. Surely, there are laws, regulations, and government agencies charged with protecting or considering heritage resources, yet enforcement is often limited and/or ignored. In general, one can say that there is a lack of adequate enforcement regulations that give meaning to the legislation; most of the islands (especially the smaller ones) do not have resources and trained personnel to ensure that developers, public-works departments, and multinational corporations comply with the existing legislation. The driving force in heritage protection on the smaller islands most often seems to be NGOs and individual activists, including amateur archaeologists. The specifically authorized government officials often face difficult choices between the preservation of archaeological sites and the promotion of economic development.

Several Caribbean countries are working diligently on their regulations at this moment (Siegel & Righter 2011). A prime example is the Organisation of Eastern Caribbean States (OECS) which has developed a code of ethics for cultural heritage management to be applied in Jamaica, St. Kitts and Nevis, Dominica, St. Lucia, St. Vincent and The Grenadines, and Grenada. The development of National Parks in several Caribbean countries has been shown to contribute directly to people's awareness of their past, while at the same time creating jobs and education programs. Cultural tourism in the Caribbean has become a flourishing fact of life, and has been recently identified as the most significant developing aspect of tourism world-wide. Many islands increasingly promote their unique historical legacy to attract visitors from all over the globe.

Archaeological heritage management in the Dutch Caribbean, as in many other countries of the Caribbean region, is in a state of transformation (Haviser & Gilmore 2010). Caribbean nations and territories have now all developed some form of heritage legislation on the basis of national and international standards, yet the local level remains the arena of dealing with the complexities and conflicts of implementing these laws. All proud Caribbean nationals agree that the rich archaeological record of the region needs to be properly documented, authentically interpreted, and in most cases the known sites preserved. The safeguarding of the islands' archaeological and cultural tangible and intangible heritage is a concern of the entire Caribbean region and the archaeology of the Dutch Caribbean should be understood within the framework of circum-Caribbean history (Hofman & Bright 2010). Qualified research should be carried out by specialized organisations, whereby the involvement of and engagement with local governments, communities, and cultural heritage institutes is crucial. The participation of local Caribbean students in field schools and training is essential, and they should also be a critical component for the communication of the achieved scientific results to the resident

public. Governmental cooperation and initiatives are essential, including local private/public sector co-funding, which should serve to highlight, preserve and maintain the cultural heritage of the islands.

Today, several large archaeological projects have been financed by private investors and construction companies carrying out extensive building activities, often based in compliance with the Valetta Treaty. Caribbean archaeology in general and that of the Dutch Caribbean in particular have become predominantly forms of rescue archaeology (Siegel *et al.* 2013). Because of this, time limits impede long term excavation projects which could answer theoretical questions, and often difficult choices need to be made regarding heritage management and the preservation of sites. A number of such projects that have taken place in the Dutch Caribbean islands over the last decade will be highlighted in this volume, such as: the Belvedere (1996), Rockland (2012), and Bethlehem (2006) Plantations excavations, and the Cay Bay Development project (2009) on St. Maarten, prior to the development of these areas for housing and/or tourism; the Spanish Water prehistoric site on Curaçao (2008), prior to the construction of a golf course (2010); the Slagbaai-Gotomeer National Park on Bonaire (2011), in preparation for tourism development; the Cul-de-Sac and Joremi sites on St. Eustatius (2011-2013), where an oil terminal is planned to be extended, and a large-scale housing project has been approved; and, finally, the Breadline site on Saba (2010), where commercial development took place in a confined urban space. All of these operations were joint financial ventures based on the concepts of the Valetta Treaty, between the investors and/or construction companies and the organizations responsible for the proper professional archaeological research of the sites in question, such as Leiden University, SIMARC, BONAI, SABARC, and SECAR.

Framework of the volume

This volume is an outcome of the recent political changes in the Dutch Antilles, as a result of which Bonaire, Saba and St. Eustatius became municipalities of the Kingdom of the Netherlands, and Aruba, St. Maarten and Curaçao obtained a special status within the Kingdom, as well as the increasing amount of AHM work needed on the islands with their new statuses and the implementation of the Valetta Treaty. The initial concept of this volume also follows a similar symposium topic, hosted by Leiden University, at the 2010 annual meeting of the European Archaeological Association (EAA) in The Hague. We have included three basic levels of thematic groups for the chapters of this volume: firstly, an overall review of the theoretical and historical aspects of the applications and legislation on the different islands of the Dutch Caribbean, secondly, some examples of community engagement projects, and thirdly a presentation of specific AHM case studies from each island within the Dutch Caribbean. As contributors to this volume, we have brought together a number of authors with different backgrounds, of whom several are local island-employed archaeologists. Their respective chapters present the AHM policies of the islands and the outcome and results of various archaeological projects that have been conducted within the scope of these policies.

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A review of archaeological research in the Dutch Caribbean

Jay B. Haviser and Corinne L. Hofman

Introduction

The occupational history of the insular Caribbean region goes back some 7500 years. Between approximately 5500 BC and AD 1492 the islands of the Caribbean Sea were continuously frequented by people on expeditions, feasting trips and migrations originating in the surrounding continental areas.

As far as the Dutch Caribbean islands are concerned, the earliest occupations are recorded from Curaçao around 3000 BC. Like Aruba and Bonaire, this island was probably explored from western Venezuela because of its rich marine resources. Saba, St. Maarten and later also St. Eustatius were populated somewhat more recently from either the northeastern part of the South American mainland, the Greater Antilles and Puerto Rico. From the first colonization of the islands onwards Aruba, Curaçao and Bonaire (ABC islands) and Saba, St. Eustatius and St. Maarten (SSS islands) have belonged to different influence spheres, the Intermediate Culture Area, also known as the Isthmo-Colombian or Chibchan Culture Area, and the Caribbean Culture Area, respectively. In both regions, it is suggested that mostly Arawakan- and Cariban-speaking peoples from the South American mainland entered the island archipelago to eventually settle there permanently.

The initial European encounters with the islands of the Dutch Caribbean began with the reported sighting of St. Maarten, St. Eustatius and Saba by Columbus during his second journey to the West Indies in 1493, even though no landings were made on the islands at the time. In 1499 a Spanish ship with chronicler Amerigo Vespucci visited Bonaire and spent two days and one night exploring the island, after which a landing was made at Curaçao for one day. Subsequent to these visits, the Spanish established a small colony at Curaçao and a military post at Bonaire from about 1520 until 1634, while Aruba had a small Spanish post from 1527 to 1636. In the Dutch Windward group of islands, the actual Spanish presence was less significant, such that no Spanish settlements are known for St. Eustatius or Saba, and they only briefly occupied St. Maarten (1633-1648). The first arrival of the Dutch in these

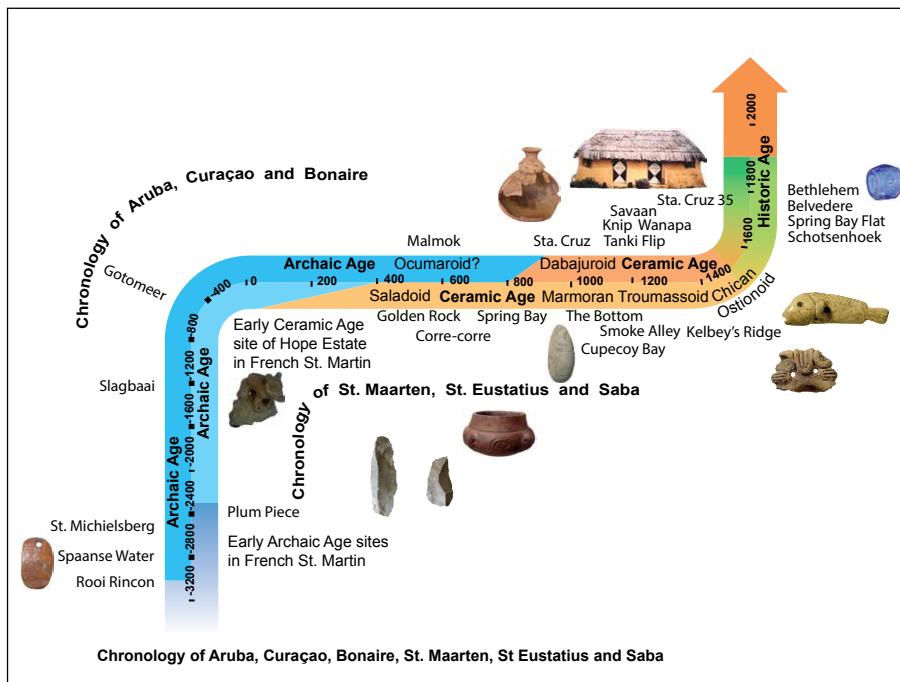


Figure 2.1: Timeline of the Dutch Caribbean.

islands was with visits to Bonaire in 1623 and to St. Maarten in 1624, both landings being exclusively for the evaluation of the potential exploitation and collection of salt. In 1634 the Dutch invaded and took the islands of Curaçao and Bonaire from the Spanish, and two years later brought Aruba into the sphere of the Dutch Leeward Islands conquests. Also, during this time in the Dutch Windwards, the French had established small colonies on St. Eustatius and St. Maarten since 1629, and in 1635 Saba was claimed by the King of France. In 1631 the Dutch occupied the southern part of St. Maarten, with the French simultaneously occupying the northern portion of the island. Five years afterwards the Dutch replaced the French on St. Eustatius while in 1640 Dutch settlers from St. Eustatius established a colony on Saba, where the French had never actually settled. In the mid-seventeenth century an era of changing national controls for many of the Dutch Caribbean islands commenced. The Spanish expelled the Dutch and the French from St. Maarten in 1633, but both countries settled the island again in 1648, resulting in its split into the Dutch and French halves in that same year. Subsequent to this, Dutch St. Maarten was occupied by French and English forces at various intervals up to 1816, after which Dutch control of the island was regained until the present. In 1689 French attacks on Saba were successfully repulsed by the Dutch, although the English occupied the island numerous times for periods up to several years in the eighteenth century. This lasted until 1816 when Saba came under Dutch permanent control. Curiously, by about 1780 the Dutch language had virtually disappeared on Saba, an indication of the locally strong English cultural influence and the Scottish heritage of many of the resident families. Thanks partially to the

substantial Jewish population allowed to immigrate into the Dutch Caribbean, St. Eustatius was developing into a commercial hub for the entire Caribbean region by the early eighteenth century, and its economic value is evident from the frequency with which the island was invaded and conquered. From 1636, when the Dutch first took St. Eustatius, to 1816 when the Dutch regained permanent control of the island, its flag changed 22 times among the French, English and the Dutch. It is also significant that in 1690-1691 numerous Dutch planters fled from St. Eustatius to the Danish islands of St. Thomas and St. Croix in order to avoid French seizure of their property, as a result of which the Dutch became the largest national group on St. Thomas. It should also be noted that St. Eustatius played a key role in the armament supplies shipment to the British North American colonies during the American Revolution. The numerous military engagements on the Dutch islands led to the recurrent construction of fortifications and other military structures as well as the rebuilding of towns after attacks, accounting for the abundant reuse and reconstructions noted in the historical archaeology research. The islands of the Dutch Leewards were maintained with more stability in regard to Dutch control, considering there was only one French capture of Curaçao for ransom in 1713 for some days, and two captures of all the Dutch islands by the English, in 1801-02 and 1810-16, after which permanent Dutch control was established again. This relative stability allowed for the emergence of Curaçao as a major trading center for the region and, along with the inhibiting climatic conditions, led to the focus on a commercial economy rather than one based on plantation agriculture for that island. As early as the 1640s the first enslaved Africans were brought to the Dutch Caribbean as part of the Dutch trans-Atlantic slave trade. Thousands of Africans were used as slaves on the large-scale plantation islands of St. Maarten and St. Eustatius, and even larger numbers of Africans were passed through the islands of St. Eustatius and Curaçao, primarily to the Spanish territories. On Bonaire a small proportion of the population consisted of imported Africans, while on Aruba the African presence was extremely small and on Saba it was minimally evident in the slavery era. Even more significant than the African contributions to the economic development of the Dutch Caribbean through their commercial sale and labour on the plantations, African slaves had an important impact on the subsequent cultural formulation of the islands, with variable degrees of influence on the different islands. There is logically a small influence of African genetic and cultural traits on those islands where Africans formed a small proportion of the population, while on the islands with majority populations of Africans the consequent genetic and cultural influence is predominant. There were several important events, such as the 1795 slave revolt on Curaçao, which greatly contributed to the eventual emancipation of the slaves in the Netherlands colonies in 1863. Ironically, the emancipation of the enslaved Africans on Dutch St. Maarten in 1863 took place 15 years after the liberation of the Africans on the French side (1848), with the resulting escape of many slaves across the open border, and the effective collapse of the slavery system on the Dutch side before the actual emancipation date. It was after emancipation that the economic, settlement and social systems of the islands with large African-descendent populations began to alter dramatically, and less so on the islands with less African influence. Other non-European ethnic groups, including Asian and

Arabic populations, began migrating to parts of the Dutch Caribbean in this period, forming the multi-ethnic base of the cultures which are now evident on some of the islands, for instance Curaçao, but not on other islands, for example Saba.

Of particular importance to Caribbean archaeology and Archaeological Heritage Management (AHM) in general are the economic systems practiced by the island societies, which produced or still produce directly or indirectly, large volumes of material culture evidence. For the Dutch Caribbean we have identified a variety of economic systems for each of the different islands. The large island of Curaçao had primarily a commercial economy throughout its history, including an early emphasis on the African slave trade, with agriculture, mining and straw-hat production as minor supplements to the overall system. Curaçao and its sister island of Klein Curaçao were heavily exploited for the mining of phosphate in the late-19th century. St. Eustatius, like Curaçao, also maintained a large commercial economy, again reinforced by the trans-Atlantic slave trade, until the beginning of that island's economic decline in the late-18th century. However, St. Eustatius was additionally more heavily based on a plantation economy of various crops, with sugar production being the greatest in importance. The island of St. Maarten had a predominantly plantation and fishing economy producing a surplus for export, accompanied by salt production. While Saba had only a small-scale subsistence economy of agricultural production for local consumption in addition to some minor export of woven handicrafts and 19th-century sulphur mining, yet the Sabans themselves were in demand for their navigation skills and seamanship. On Bonaire limited agriculture, livestock and salt production were the primary basis of the economy, and on Aruba livestock rearing and minor agricultural production were the main economic systems which developed, with gold mining as a very short-term economic source in the late-19th century. The construction of two large oil refineries in the early-20th century on Aruba and Curaçao caused the economies of both these islands to shift heavily towards the petroleum industry. As the Second World War reached into the Caribbean region, it was precisely these two oil refineries that became significant targets, with the resulting occupations by US military forces of the ABC islands throughout most of the 1940s. After the war, by the 1960s, all of the islands had directed all or part of their economic systems towards the tourist industry, especially St. Maarten and Aruba. By the early-21st century the economies of St. Maarten, Aruba and Bonaire have all been monopolized by the tourist industry, while Curaçao has also devoted a much larger proportion of its economic foundation to tourism. The economy of St. Eustatius has mostly gone industrial, with a major oil depot and oil transport facility on the island, and very limited tourism. Saba's economy depends heavily on the presence of an international medical school and to a minor extent on tourism.

Research Sources for the Dutch Caribbean

Following the theme of this volume, we would like to assimilate the historical background of the Dutch Caribbean within a perspective of the material culture research conducted on the islands. It becomes immediately evident that research topics on the different islands vary with each individual island's historical

context, demography and geography. From this we see that the types of research for the islands have generally followed the more prominent strategic features of their agricultural, commercial and military use. However, there are numerous archaeological sites on each island which are representative of other areas of study, that have yet to be fully investigated. It is clearly a global phenomenon that selection of archaeological research goals and implementation of these goals are a complex matter of international regulations, financial availabilities and local population interests which decide which sites are to be investigated and by whom. In reference to the fields of research related to archaeology, there are various historical, anthropological or sociological, architectural, and ethnographic studies which cover some or all of the islands in the Dutch Caribbean constellation. Some examples are mentioned here, taken primarily from a literature review by Haviser (2001). As to the primary sources of historical documentation, some of the more important early archives for maps and documents of the Dutch Caribbean colonization are located at the Dutch National Archives at The Hague in the Netherlands, those especially referring to the Dutch West India Company. As well, the (former) Netherlands Antilles Government Archives in Curaçao have documents mostly post-dating 1830. For the Spanish period of colonization in the Dutch Leewards some references can be found in Hernández (1868-1882), as reproductions from the Royal Archives in Seville, Spain. Of the secondary historical sources particular mention should be made of publications on the history of the combined Dutch Caribbean islands by such authors as Teenstra (1836), Hamelberg (1901-1909), Knappert (1932), Hartog (1953-1964), Goslinga (1971, 1979), and Haviser (2010a). As well, summaries can be found in encyclopedic works, partly or wholly covering the Dutch Caribbean (Ayubi *et al.* 1985; Cruxent and Rouse 1969; Ten Kate 1917). These are supplemented by island-specific history publications by numerous authors, especially: Attema (1976) and Hamelberg (1899) for St. Eustatius; Maduro (1961), Renkema (1981), Congregation (1982), and Brito (1989) for Curaçao; Mansur (1989) and Hartog (1988) for Aruba; Johnson (1979) and Hofman (1987) for Saba; Euwens (1907), Nooyen (1985), Antoin (1998), and Haviser (1991) for Bonaire; and Johnson (1987), Sekou (1997), and Speetjans (2002) for St. Maarten. Closely related to the history studies, and directly related to historical archaeology, are publications about the historic architecture of the islands. Some of these architectural investigations include: Ozinga (1959), Newton (1986), Prunetti (1987), Coomans *et al.* (1990), and Buddingh' (1994) for Curaçao; Temminck-Groll (1982, 1989) for St. Eustatius and St. Maarten; Newton (1988) and Klomp (1980) for Bonaire; Denters (1979) and Peterson (1985) for Aruba; and Brugman (1995) for Saba. In addition to history-oriented studies of the islands, there are various anthropological and sociological studies which are relevant for a thorough culture-historical investigation. These studies include publications by: Keur and Keur (1960) and Hofman and Duijvenbode (2004) for the Dutch Windward Islands; Crane (1971) on Saba and St. Eustatius; Antoin (1998) and Klomp (1983) on Bonaire; and Hoetink (1966), Allen (1991), de Paula (1967), Römer (1991) and Haviser (2006) on Curaçao. Also relevant for material culture studies are the various ethnographic artifact collections associated with the museums of the Dutch Caribbean, some of which also have corresponding

publications, for instance by Father Brenneker (1969-1975) for Curaçao; and Sypkens Smit (1982) for St. Maarten. In 2001 Haviser conducted a professional evaluation regarding the cultural impact of foreign versus local community-based archaeological initiatives on the Dutch islands. This was followed in 2003 with the creation of the Bonaire Archaeological Institute (BONAI) and with the call to professionals for more ‘grassroots’ cooperation in the archaeological research of the islands (Haviser 2003). Subsequently, in 2005 and 2012 Haviser established the St. Maarten Archaeological Center (SIMARC) program and the Saba Archaeological Center (SABARC) program as community-based archaeological institutions with an emphasis on local high-school youth participation. At the 2005, 2007, 2009, and 2011 congresses of the International Association for Caribbean Archaeology (IACA) students from these three community-based programs made presentations of their research conducted on the different islands (Abraham *et al.* 2005; Lusía and Hurtault 2011; van Arneman *et al.* 2007; Velasquez and Halley 2009). Currently, Chris Velasquez of St. Maarten, a former SIMARC student, is studying archaeology at the City University of New York. It is intended that after completion of his degrees, he will eventually replace Haviser as the director of the the SIMARC program on St. Maarten and thereby become the first St. Maarten-born archaeologist for the island. Following on foundation work for an archaeology policy plan on Curaçao (Haviser & Ansano 1993; NAAM 2008), in 2012 the National Archaeological Anthropological Museum (NAAM) of Curaçao published an evaluation report about the status of implementation of the Valetta Treaty in the Dutch Caribbean islands, with consultation by representatives of the six islands (NAAM 2012) (see also chapter 4).

Aruba, Bonaire and Curaçao

Aruba, Bonaire and Curaçao are known to have been visited by groups of hunter-gatherers as early as 3000 BC. These early settlers occupied campsites located in coastal settings or near lagoons, where accumulations of shells on open-air surfaces have been found (Spanish Water, St. Joris on Curaçao and Slagbaai, Gotomeer on Bonaire), and in rock shelters or caves (St. Michielsberg, Ceru Boca and Tomasitu on Curaçao, and particularly Rooi Rincon which is associated with the largest fresh water source on that island; Arikok on Aruba; and Spelonk on Bonaire). Some of these rock shelters and caves also bear numerous paintings or pictographs (like Savonnet, Santa Catharina, Seru Coral and Rooi Rincón on Curaçao; Arikok on Aruba; and Onima and Spelonk on Bonaire) (Haviser 1987, 1991; Wagenaar Hummelinck 1979). These communities followed a so-called ‘semi-nomadic existence’ and their subsistence strategies were based on hunting, fishing, shellfishing, foraging (Hoogland & Hofman 2009; Hoogland *et al.* 2014), and probably plant managing. They concentrated on natural accumulations of resources such as mangrove stands for easily acquired food (Haviser 1987). Numerous flake/pebble tools and shell gouges are associated with these sites (Haviser 1987). Radiocarbon dates of Rooi Rincón point to an occupation as early as 4490±60 BP (Haviser 1987). Aruba was likely settled through western Venezuela. A large number of Archaic Age sites is known from the island, with the

oldest occupations dating to about 1250 BC. The latter consist of shell scatters, similar to those documented on Curaçao and Bonaire, located in Rooi Bringa Mosa on Aruba (Harold Kelly, pers. commun. 2010). Two later Archaic Age sites served as burial places (Canashitu & Malmok), while most of the others are shell middens or special activity sites (Dijkhoff & Linville 2004). Malmok is known as the most recent preceramic site in the Southern Caribbean islands and dates back to ca. AD 900, a time when also large permanent settlements began to emerge on these islands in which ceramic production and horticulture of root crops was prominent. Malmok has a ceramic component as well (Versteeg *et al.* 1990).

The two earliest dates from Bonaire point to an occupation around 2000 BC, and both are associated with mangrove concentration areas (Haviser 1991; Haviser *et al.* 2011). The Lagun site is at a small lagoon inlet on the east coast, with an assemblage including ground shell and stone tools, hammerstones, grinding stones and distinct shell gouges. The oldest site for Bonaire is Slagbaai, situated on the shore of a large inland lagoon at the northern coastline of the island, with a similar artifact assemblage as noted for Lagun (Haviser *et al.* 2011). The somewhat later Gotomeer sites on Bonaire yielded ground shell and coral tools, as well as hammerstones but lack ground stone tools and shell gouges (Haviser 1991). Like Rooi Rincón on Curaçao, the unifacial and bifacial flake industry of the Bonaire assemblages shows similarities to the El Heneal material from the Tucacas area in Venezuela. However, the ground shell material resembles the Manicuroid series of Cubagua and Margarita (Rouse & Allaire 1978), except for the shell gouges. In a 2009 study of paleo-tsunamis on Bonaire it was suggested that there was a direct link between the latter and the removal of coral reef food sources, and indeed the elimination of sites which occurred during the Archaic Age in various periods (Scheffers *et al.* 2009).

The Archaic-Ceramic Age transition is not well documented for the ABC islands. Some evidence is available in the form of ceramics from the upper levels of the Slagbaai, Lagun and Gotomeer sites on Bonaire (Haviser 1991; Haviser *et al.* 2011). The Wañapa site, which provided an early date of 1050 BC, heavily patinated shale artifacts and large *Melongena* shells, may represent evidence of intergradation of people and ideas between the Archaic and Ceramic Ages (Haviser 1991). Similarly, the Spanish Water site on Curaçao produced pottery amongst otherwise Archaic Age shell assemblages with dates between 200 BC and AD 400 (Hoogland *et al.* 2014). The earliest Ceramic Age sites on Bonaire and Curaçao consistently date to ca. AD 470.

The initial Ceramic Age colonists of Curaçao arrived around AD 400 from northwestern Venezuela. However, it is only around AD 800 that the first large Ocumoid Dabajuroid settlements were established on the island. Major Dabajuroid sites on Curaçao are Knip, San Juan, Santa Barbara, and De Savaan. Besides Dabajuroid ceramics the material culture at these sites is characterized by shell discs, celts and gouges as well as ornamentally carved objects of shell and bone, bone projectile points and ground turtle bone plates (Haviser 1987). The preferred raw materials for lithic tools and implements are chert and basalt, as opposed to shale and limestone which were common during the Archaic Age. The recovery of microliths has been long used as a proxy for the processing of

manioc and the presence of metates as an indication for the preparation of maize (Haviser 1987). Recent research across the Caribbean has shown that a variety of rootcrops were processed with these implements. Most Dabajuroid settlements are located inland or on the shore of bays on the south coast of Curaçao and cluster mainly in the western half of the island, which corresponds with the location of its lithic sources (Haviser 1987). During the Ceramic Age exploitation of the *Pinctata radiata* oysters and *Lobatus gigas* gastropods intensified compared to the Archaic Age. *Cittarium pica* shells and chitons were also major constituents of the diet. *Melongena melongena* gastropods are rare in Ceramic Age assemblages and the specimens found are smaller than those from Archaic Age sites. Exploitation of bivalves diminished significantly and *Pecten ziczac* disappeared from the assemblages altogether.

Major Ceramic Age villages on Bonaire have been found at Wañapa, Amboina, Fonteín, and Put Bronswinkel. The earliest ones have been dated to AD 470 (Haviser 1991). Dabajuroid ceramics appeared on the island from AD 800/1000 onwards. On Aruba the first Dabajuroid village sites can be dated to AD 900/1000. Three major settlements, Tanki Flip, Santa Cruz and Savaneta, are known, in addition to a number of smaller settlements (Dijkhoff & Linville 2004). Tanki Flip, located in the northwestern part of Aruba, was occupied initially around AD 950/1000 and was abandoned by AD 1400 (Versteeg & Rostain 1997). Ditches (*rooien*) found around Tanki Flip most likely represent ancient water management systems. A rooi is a small natural gully which fills with water during periods of rain. Ceramic Age settlements tend to be located near one or more gullies, used as natural irrigation channels. Further, the gulleys facilitated travel and communication across the island. At Santa Cruz, Aruba, several human-made gullies with north-south orientations are present, connecting the natural west-east oriented *rooien* (Harold Kelly, pers. commun. 2010; Hofman & Hoogland 2015). Soil marks of round and oval structures are suggestive of houses of varying sizes (Haviser 1991; Versteeg & Rostain 1997). Fish accounted for about 70% of the faunal assemblage, indicating the importance of marine resources in the diet (Dijkhoff & Linville 2004). The majority of fish came from shallow water and coral reef areas. Shells were gathered from both the leeward and windward coasts of the island (Dijkhoff & Linville 2004).

The Dabajuroid ceramics on Aruba are characterised by corrugated rims indicative of a coiling technique, relatively frequent ornamental appliquéés, lugs and ears, next to flat, annular and low stand ring bases. Temper consisted of crushed quartz particles while the reconstructed vessel shapes encompass mainly open bowls, griddles, cazuelas, necked jars, and large urns with cylindrical necks (Dijkhoff 1997; Dijkhoff & Linville 2004; Haviser 1989). There are certainly differences between the three islands in terms of ceramic style. The Wañapa style of Bonaire is typically associated with the Savaan style on Curaçao. Several traits at Wañapa, such as dotted painting, alternate-color-parallel lines on buff, reflecting Ocumaroid traits, distinguish the Bonaire ceramics from the mainland Dabajuroid (Haviser 1991). Both on Curaçao and Bonaire pottery and lithics seem to have been locally produced in contrast to the Aruban artifacts, which are more affiliated with western Venezuela (Haviser 1991).

During the early colonial period Aruba, Bonaire, and Curaçao are reported to have been inhabited by the '*Indios Curaçaos*', Arawakan-speaking Caquetío, who also lived in the coastal areas of Venezuela (Oliver 1989). Most of the Amerindians were deported during the early colonial period, leaving only a remnant of the original population on Aruba (Dijkhoff & Linville 2004). San Hironimo on Curaçao also continued to be inhabited by Amerindians in the early colonial period as radiocarbon dates indicate an occupation until AD 1530-1625 (Haviser & Maduro 1990). On Bonaire a remnant Amerindian population survived until the late-18th century (Haviser 1991). As well, an investigation at a Colonial cemetery with potential Amerindian remains noted, was conducted by Raymundo Dijkhoff on Aruba.

For a review of the research into the historical archaeology in the Dutch Caribbean, reference is again made to the extensive literature search of Haviser (2001). In the 1870-80s a Dutch Roman Catholic priest named Antonius J. van Koolwijk made amateur investigations of various archaeological sites dating from historic times on the ABC islands and wrote letters on his finds to the Dutch National Museum of Antiquities in Leiden (1879). The director of this museum later published some of van Koolwijk's investigations (Leemans 1904). This was followed by archaeological/ethnological field research on Curaçao conducted by J.P.B. de Josselin de Jong of the National Museum of Ethnology in 1923. However, these researchers focused on pre-Columbian sites, and thus few historic sites were actually identified in this period.

Around the mid-20th century Father Paul H.F. Brenneker O.P., Elis Juliana, and Christiaan J.H. Engels put together extensive collections of ethnographic materials on Curaçao. The Engels Collection actually forms the basis of the present Curaçao Museum exhibits, while the majority of the Brenneker and Juliana Collections are in the possession of the NAAM, formerly the Archaeological-Anthropological Institute of the Netherlands Antilles (AAINA), together representing the largest ethnographic artifact collection for Curaçao to date. These collections form an important reference base for material culture research on the ABC islands. Juliana has published information relating to these artifacts in the form of art, poetry, stories and other literature, while Father Brenneker published a series called *Sambubu* from 1969 to 1975, which describes artifacts and activities of potential importance to historical archaeology research. In 1965 the Venezuelan archaeologist José M. Cruxent came to Curaçao for a short visit and identified some historical archaeology sites together with AAINA director Edwin Ayubi. Cruxent processed the first series of radiocarbon dates from the island, including one from Gaito, a Spanish-period site, yielding a date of AD 1610 (Cruxent 1965).

The actual research into the historical archaeology of Curaçao, conducted thus far, has been quite variable with regard to the types of sites investigated. Professional research has primarily been conducted by the AAINA, beginning in 1982 with an island-wide land survey for prehistoric and historic sites. The historic sites first reported in this survey were mostly of the protohistoric period (Haviser 1987). The AAINA also conducted excavations at the San Hironimo site on Curaçao, being a Spanish-Amerindian settlement of the early-16th century called Ascension (Haviser & Maduro 1990). In 1990 Haviser and Brito conducted archaeological tests over

much of the urban Punda district of Curaçao (Haviser & Simmons-Brito 1991, 1993). In 1991 this was followed by excavations at the Zuurzak site, which could be identified as a Dutch slave holding camp from the late-17th century (Haviser 1995). In 1994 the AAINA conducted excavations and mapping at two Seinpost sites, being Dutch optical telegraph stations of the early-19th century (Haviser 1996b). In 1995 a field survey and excavations were conducted by the AAINA at slave-period and post-emancipation African settlements in the Kenepa countryside area of Curaçao (Haviser 2000). Resulting partially from the above noted investigations, a school textbook was written in Papiamentu on the pre-Columbian and historic cultural heritage of both Curaçao and Bonaire (Haviser *et al.* 1994).

Beginning in 1988 Wilhelmus (Wil) P. Nagelkerken conducted for the AAINA various underwater historical archaeology investigations on Curaçao. These studies included: general underwater surveys of the bays of the island's south coast; underwater mapping and excavations from 1988 to 1995 at the 1778 shipwreck *Alphen* in St. Anna Bay; and underwater survey and excavations along the wharf area of the Handelskade in the commercial Punda district (Nagelkerken 1994, 2009). Subsequent underwater research was conducted by Nagelkerken and a group called STIMANA at the *Mediator* shipwreck site and along the south coast of Curaçao (Nagelkerken *et al.* 2008), as well as in the Kralendijk harbor of Bonaire (Nagelkerken & Hayes 2002).

Eventually through further AAINA research the detailed documentation of the post-emancipation African-descendent material culture assemblage of Curaçao was identified and published (Haviser 1999a), followed by various reports on specific material culture traits, radiocarbon dates, and museum collections/exhibitions from the various islands (Haviser 1999b, 2000; Haviser *et al.* 1999). With the transference from the AAINA to the NAAM in 1999, including diminished archaeological fieldwork, few historic sites were investigated on the ABC islands until 2006, when a rescue archaeological program was carried out during road construction on the Columbusstraat in the inner-city Punda area of Curaçao (NAAM 2008).

The large size of Curaçao in comparison to the other Dutch islands and its multi-ethnic, commercial, and seat-of-government character certainly are indications of the potential for historical archaeology research on the island. Numerous sites are present on Curaçao from the various ethnic groups and social classes which offer potential for future investigations. Up to the present many of these are only simply recorded with site locations. As well, there are over 15 museums on the island, many with specialized themes, which also offer vital and diverse exhibition venues for Curaçao's cultural heritage (Haviser 1999c).

Historical archaeology research has been limited on Bonaire, with early historic sites mentioned by the Rev. G.B. Bosch in 1836, and amateur surveys made by Father A.J. van Koolwijk O.P. in the late-19th century. However, specific sites were not located at the time. Later amateur surveys, conducted by Father R. Nooyen, Frank Booi, and Father Brenneker, were primarily focused on the prehistoric sites known on Bonaire. However, some of the Nooyen and Booi artifact collections noted in the Bonaire Museum include historic materials. Some historical archaeology was conducted on Bonaire by Haviser for the AAINA in

1990, as part of a larger study concerning the Amerindian culture history on the island from prehistory to the present (Haviser 1991). In 1997 the first professional archaeological investigation of a historic site was conducted by the AAINA at Fort Oranje on Bonaire, as a mitigation prior to reconstruction work to be done at the fort (Haviser & Sealy 1999). This Fort Oranje research can actually be seen as the first preliminary implementation of the Valetta Treaty intentions on Bonaire.

In 2003 the BONAI was established by Haviser as a community-based program to involve the local Bonaire community and particularly youth in archaeological research. Various archaeological investigations have been conducted at historic sites on Bonaire by the BONAI group, including: research in the inner-city of Kralendijk; an inventory of *kunuku* (folk) houses (Haviser & Antoin 2004); an inventory of historic anchorage sites; the placement of a cultural statue on the sea floor for reef development; the documentation and restoration of various historic salt monument structures; and the exhumation of a Roman Catholic priest from the Rincón cemetery (Haviser 2010b). As well, amateur scuba divers have located various underwater sites, particularly shipwrecks, off the coast of Bonaire. These were professionally documented and investigated by Nagelkerken and STIMANA in 2002-2004 and by the BONAI group in 2009. In 2007 the BONAI conducted an historical archaeology investigation with survey, mapping and excavations at a World War II military site on Bonaire called Tanki Maraka (Haviser 2011). Due to the initiative and perseverance of the BONAI group this site has now been registered as a monument and been developed into the Tanki Maraka Heritage Park open-air museum. All of the BONAI research projects have been presented at the various meetings of the International Congress for Caribbean Archaeology (IACA) by Haviser and the students themselves.

Three more recent historical archaeology projects on Bonaire are directly related to the implementation of the Valetta Treaty, subsequent to the reformation of the political status of the islands on 10 October 2010. These investigations were all commissioned by the Bonaire public works authority (DROB) and consisted of: the mitigation of the historical ruins noted in roadway construction work at Kaya J. Nicolaas, excavated by Haviser and the BONAI (Haviser 2012a); a land survey and excavations within the Slagbaai-Gotomeer National Park, conducted as a cooperative program by Leiden University, the BONAI and the Stichting Nationale Parken Bonaire (STINAPA) (Haviser *et al.* 2011); and in 2014, a rescue salvage investigation was conducted by Claudia Kraan for the NAAM during site construction at the old music school in Kralendijk.

Limited historical archaeology research has been conducted on Aruba. The greatest focus of archaeological work has been on the prehistoric sites of the island, some of which contain historic components. Indeed, there is an interesting description of a historic-period Amerindian urn burial ceremony by van Koolwijk in the 1870s (van Koolwijk 1879). Various ethnographic artifact collections can also be noted in the National Archaeological Museum Aruba (NAMA).

The primary investigations closely related to historical archaeology on Aruba are architectural and historical studies by Peterson (1985), van Alphen (1990) and Stienstra (1988) of the Aruban gold mining activities from 1824 to 1915, which include site plans, photographs, and detailed historical accounts.

The two islands of Bonaire and Aruba with rather large land areas, yet historically noted with limited large-scale agriculture and commercial ports, have been significantly neglected by historical archaeologists. The latter have mainly focused on plantation complexes, forts or commercial centers for research in the Caribbean (Haviser 2001). This further demonstrates the particular bias towards these types of sites for research by the historical archaeologists currently working in the region. Thus, it is evident that a wide variety of historic sites are still potentially available for future historical archaeology research on these islands, and with the increasingly required implementation of the Valetta Treaty, a more varied array of sites are now being investigated.

Saba, St. Eustatius and St. Maarten

The first occupants of the Dutch Windward Islands can be considered to have been hunter-fisher-gatherers (Figure 2.2). However, evidence from Saba also points to the early management of plants and root crops in the tropical forest of the island by about 3500 BP. The ABC islands were probably explored by Amerindian communities from western Venezuela, who ventured continuously between the mainland and the islands in order to gather and process shells. In contrast, the SSS islands, which were further away from the homeland(s), seem to have been the scene of small groups of people who trekked among the islands on a season basis, such as evidenced by the sites of Corre Corre and Smith Gut on St. Eustatius (Haviser 1985a; Gilmore *et al.* 2011). Campsites are often located in coastal settings associated with coral reefs, where we find an accumulation of shells on the surface, on beaches, mangrove areas and in tropical forest environments.

The Archaic Age campsite of Plum Piece on Saba dates back to 1800-1500 BC and is situated at an elevation of 400 m above mean sea level in the interior tropical forest of the island. The numerous grasses and fruit trees of the local vegetation, the multiple plant materials for subsistence, manufacturing and construction, and the presence of volcanic and tropical soils which are well suited to the growing of important cultigens make the location of Plum Piece very favorable for prehistoric settlement. Main subsistence resources were the landcrab and Audubon's shearwater next to pelagic and reef fish (chiefly *Epinephelus* sp., *Acanthurus* sp., *Lutjanus* sp., *Sparisoma* sp., and *Haemulon* sp.); mollusks are virtually absent (Hofman & Hoogland 2003, 2011; Hofman *et al.* 2006).

The small variety of features at this site and the shallowness of house posts and pits indicate that the Plum Piece structures were more likely shelters rather than part of more permanent structures, implying low labor investment. Also, little effort was put into refuse disposal, as it was discarded only 2-4 m from the shelters. In addition, there is evidence that the site was successively abandoned and reoccupied during several episodes of its occupation. The limited investment in building and refuse disposal behavior, the low energy put into exploiting food resources and the forest-oriented subsistence suggest that specific resources were being targeted. Moreover, based on the type of artifacts recovered and the toolkit as a whole, including flint scrapers, shell adzes and multi-purpose stone tools, it has been suggested that Plum Piece functioned as a site where woodworking for the

making of canoes and the gathering or managing of plant resources took place (van Gijn *et al.* 2008; Nieuwenhuis 2008). Besides vegetal foodstuffs, resin, fibers, and tannins could be extracted from the forest plants and used for paint, fish poison or as fixatives (Hofman *et al.* 2006).

Flint at Plum Piece was obtained from Long Island near Antigua at a distance of 150 km from Saba. The near-total lack of cortex on the flint material indicates that cores arrived at the site in a pre-worked condition (Hofman & Hoogland 2011). The scarcity of cores is probably due to the fact that they were transported further in order to enable tools to be made at other locations. On the basis of the data at hand, it can be suggested that Plum Piece functioned alternately and complementarily with sites on other islands. Many of the Archaic Age sites in the northern Lesser Antilles reveal multiple episodes of occupation, abandonment and reoccupation over considerable periods of time (Hofman & van Duijvenbode 2011). Activities carried out on specific islands probably alternated with and were complementary to pursuits on other islands in the northern Lesser Antilles. The islanders most likely maintained a yearly mobility cycle, taking advantage of seasonality in the biotic resources across the archipelago in those areas that could be targeted for non-subsistence activities: a form of archipelagic resource mobility in broadest sense (Hofman *et al.* 2006). Very recently, a new Archaic Age site on Saba was documented at Fort Bay Road by Haviser and Espersen with the SABARC. The artifact assemblage will be studied by Leiden University, with potential future research to be conducted.

Between 800 and 200 BC permanent village sites developed in the region while horticulture was fully practised now and pottery manufacture took place. On St. Maarten we see an initial settlement around 500-300 BC, while on Saba and St. Eustatius it was not until AD 450 that the first large settlements appear. The sites of Spring Bay, St. John's and The Bottom on Saba were also settled at this time (Hofman 1987; Hofman 1993; Hoogland 1996). From Versteeg's excavations at Golden Rock on St. Eustatius we have a good idea of the settlement layout and houses which were constructed in the Ceramic Age (Versteeg & Schinkel 1992). He recovered 14 houseplans of which one measured 19 m in diameter. The house was used as a communal structure like we find today in the western part of the tropical lowlands (Vaupés region) of South America, where these so-called *malocas* are inhabited by extended families in all counting over 60 people. The Golden Rock houses are very solid constructions as is evidenced by the postholes which were dug 2 m into the ground, intersecting a number of tuff and soil layers.

During this period subsistence was based on hunting, fishing, horticulture, and food collecting. At Golden Rock the majority of vertebrate remains found belong to fish (van der Klift 1992). Most of the fish species encountered derive from the coral reef and rocky bank habitat. Among the mammals found in the assemblage are the rice rat and agouti, and the main reptiles are sea turtles and iguanid lizards. Over 50 different shell species were encountered in the Golden Rock assemblage, but the majority of the remains are of the *Cittarium pica* gastropod. Dietary reconstructions using the analyses of the faunal remains and isotope studies suggest that the major part of the diet was based on marine resources (Versteeg & Schinkel

1992). On Saba, a similar faunal assemblage was noted at the Spring Bay (SB1a) site (Hofman *et al.* 1987).

Few pre-Columbian sites are known from the Dutch side of St. Maarten, but the French side has produced a significant number of sites evidencing a wide range of temporal periods and cultural functions (Haviser 1988; Bonnissent 2012). One of the few pre-Columbian archaeological sites excavated on the Dutch side is Cupecoy Bay at the far western end of the island. It is situated on a strip of land separating the sea from Simpson Bay Lagoon. This site was first noted by J.P.B. de Josselin de Jong in 1923, while samples from the site were collected by John and Dorothy Keur in 1957. These pieces are kept in the United States National Museum, Washington DC, USA. The site was not excavated until 1960 by Ripley P. and Adelaide K. Bullen from the University of Florida, Gainesville, Florida (Bullen & Bullen 1966), and then again for the AAINA by Jay Haviser in 1986 (Haviser 1988). The Cupecoy Bay site is an evolved Ceramic Age site, radiocarbon dated between AD 600 and 1250. It functioned as a small coastal settlement, exploiting both the open sea and the lagoon environment.

Pre-Columbian rock art sites are thus far unknown from Saba and St. Eustatius. However, several have been reported from St. Maarten (Dubelaar 1995). The single rock art site known from the Dutch side of the island was at the Maho Cavern, a site discovered and destroyed during the construction of a hotel in the 1950s (Haviser 1988). This site appears to have been very similar to the Fountain Cavern of Anguilla, with a large cavernous space containing various rock art images on the walls and carved stalagmites as stone statues. There was no proper recording of the site and, consequently, at present it is surrounded by mystery and unverified stories, although three stone statues were saved and donated to the St. Maarten Museum. Two other rock art sites have been recorded on the French side, such as the engraved Moho rock in the French Quarter and petroglyphs on a boulder at the Hope Estate site (Bonnissent 2012).

The pre-Columbian communities of the Ceramic Age were involved in an inter-island system of trade and ceremonial exchange to procure marriage partners, raw materials and goods. Strontium isotope analyses of human skeletons from the site of Anse à la Gourde on neighbouring Guadeloupe demonstrate that there was a regular inter-community mobility of a quarter of the population (Hoogland *et al.* 2010; Laffoon 2012). The repeated presence of non-local pottery vessels, lithic materials and artifacts accentuate the integration in a thousand-year-old regional social network made up of smaller and larger interaction spheres in which people, perishable and non-perishable goods, ideas and information as well as cultural and social practices amalgamated over time (Hofman & Hoogland 2011). By the end of the pre-Columbian period this network extended all over the Caribbean, linking villages and communities. Long-distance exchange is evidenced by the presence of artifacts made of guanín, a gold-copper alloy, from Colombia all the way up in Cuba and Hispaniola and maybe Guatemalan jade all over the Caribbean in the form of celts, adzes and ornaments. It is this network to which the first European colonizers adapted when they arrived in the West Indies on 12 October 1492. Soon afterwards they started to export products from the islands to other parts of the world and in the same way products, people and diseases from elsewhere began



Figure 2.2: Hypothesized model of human mobility and exchange of goods and ideas in the pre-colonial Caribbean.

to enter the Caribbean, a process which is known as the ‘Columbian Exchange’ (Hofman *et al.* 2006; Hofman & Hoogland 2004; Hofman *et al.* 2014).

The small Saban settlement of Kelbey’s Ridge 2 dates to AD 1300-1450 and thus to the pre-contact period. Due to its elevated position, at 140 m above mean sea level, the site provides a good view of the neighboring islands and control can be exercised over a fair stretch of sea. The 2000-m2 Saba Bank is situated to the south of the island. The core of the habitation area comprises five small round houses and cooking huts with four large hearths. The hearths contain large numbers of partly burned faunal remains of terrestrial animals, fish and shell, suggesting that they were used as cooking or roasting fires, barbacoas (Hofman & Hoogland 2011; Hoogland & Hofman 1993; Hoogland 1996). Many of the fish species identified were caught on the Saba Bank.

The site yielded in all seven burials which were located under the floors of the five house structures. They comprise ten individuals including three adults and seven children, pointing to a high infant mortality. The burial ritual is varied and complex: two of the seven burials are composite, containing an adult with a child. Strontium isotope analyses suggest a heterogeneous origin of the Kelbey’s Ridge population. One of the burials is an inhumation of a female individual of more than 30 years old. The individual had four well-healed depressed fractures on the cranial vault, probably caused by blunt-force traumas, which usually result from being struck on the head by a weapon or through punches and kicks (Hofman & Hoogland 2011). In addition, there are similarly well-healed bilateral fractures of the radius and ulna, which display a degree of healing comparable to that of the

skull, suggesting that these injuries were inflicted simultaneously with the cranial fractures. The forearms may have fractured when they were raised and crossed in order to protect the head from a succession of blows.

The Kelbey's Ridge 2 community is believed to have originated in the Greater Antilles and to have settled in the northern Lesser Antilles in order to escape social and/or political instability in that area. The traumas found on the buried female individual point to interpersonal violence which occurred at least five years prior to death. Although domestic violence cannot be excluded, it is very well possible that the traumas were the result of violent aggression from outside (warfare). Saba's position made the island very favorable as a supportive base or gateway community in order to control one of the major routes of exchange and communication between the Greater Antilles and the South American mainland. Besides, Saba would have been very attractive to obtain specific resources through the exploitation of the extensive fishing grounds on the Saba Bank (Hofman 2008; Hofman & Hoogland 2011; Hofman *et al.* 2014; Hoogland & Hofman 1999).

In the Dutch Windward islands St. Eustatius has been the earliest and the primary focal point for most historical archaeology research in the Dutch Caribbean. The earliest documentation of historic sites on the island was conducted by J.P.B. de Josselin de Jong as part of his archaeological and ethnological expedition to the Dutch Caribbean, sponsored by the Leiden Ethnological Museum in 1923. The first systematic professional investigation into the historical archaeology of St. Eustatius, and for that matter the entire Dutch Caribbean, began in 1981. This project was a joint land/underwater survey and excavations investigation program of St. Eustatius conducted by the College of William and Mary, Williamsburg, Virginia, the University of South Florida, Tampa, Florida, and Edwin S. Dethlefsen, all of the USA, with approval and supervision by the AAINA (Dethlefsen *et al.* 1979). The College of William and Mary took part as a summer fieldschool led by Norman F. Barka, while the University of South Florida participation consisted of Steve Gluckman and Kenneth W. Hardin for the underwater survey, and Jay Haviser for the land survey. There are several interesting resulting aspects of this first season's work. Nadia Brito, a native-born Curaçaoan working for the AAINA, began her studies in conservation and eventually received a Master's Degree in historical archaeology from the College of William and Mary. Haviser was requested to become the archaeologist for the AAINA which he accepted, while a William and Mary student during the early fieldschools, R. Grant Gilmore, would later establish the St. Eustatius Center for Archaeological Research (SECAR). After that first summer's work over one hundred archaeological sites, primarily plantation ruins, had been located and mapped on the island. Furthermore, the underwater wharf structures of Oranje Bay had been mapped, and limited excavations had been conducted at the Dutch Reformed Church, Fort de Windt, and the Lower Town warehouse district. Some of the results of this work were presented in a symposium at the 1982 Society for Historical Archaeology annual conference in Philadelphia (Barka 1982).

A second William and Mary fieldschool on St. Eustatius was conducted by Barka in 1982, with Gluckman returning for the University of South Florida, Dethlefsen leaving the project, and Haviser representing the AAINA. The field

survey and mapping were continued, as well were excavations carried out in the Lower and Upper Town warehouse districts. From 1981 until 1994 the College of William and Mary continued either general historical archaeology fieldschools or specific historical archaeology excavation programs on St. Eustatius (Barka 1985, 1987, 1991). The University of South Florida discontinued participation after the 1982 field season, while the AAINA participated from 1982 to 1985 with Havisser conducting land survey and mapping, and intermittently from 1983 to 1991 with Wil Nagelkerken conducting underwater surveys and artifact recovery in Orange Bay (Nagelkerken 1985, 1993).

On St. Eustatius the focus of the historical archaeology research has been on various plantation complexes and forts, the underwater work in Oranje Bay, and most extensively of urban/commercial sites. An important aspect of these urban studies has been the investigation of different ethnic populations on the island with the excavation of the Jewish synagogue and the comparative study at the protestant Dutch Reformed Church. Further, the fieldschool contexts of the investigations on St. Eustatius has resulted in several synthetic reports of the historical archaeology research, such as works on acculturation by Kandle (1985) and colono-ware ceramics by Heath (1988). This fieldschool aspect of the historical archaeology research on St. Eustatius has also allowed for more student reports on the data recovered from the excavations than exist for the other islands. Some of these publications and manuscripts include: France (1984), Bequette (1991), and Delle (1994).

With the establishment of the SECAR by R. Grant Gilmore in 2000, for the first time a permanent professional facility became available on the island. The approach that the SECAR took, was to host paying international fieldschools to conduct research on the island, thereby creating a non-local work force for the investigations. Some of the earliest SECAR research was directed at African-descendent heritage sites, which significantly had been overlooked during the William and Mary research years. Indeed, Gilmore's dissertation, which he completed at the University College London in 2004, was specifically devoted to this topic.

There have been numerous SECAR historical archaeology research projects since 2000, most of which were directed by Gilmore, ranging from plantation sites to African homesteads (Gilmore 2006, 2008). In 2011 Gilmore left St. Eustatius, being replaced as the SECAR archaeologist by Ruud Stelten, a PhD student of Leiden University. The international fieldschool program continued as the basis for SECAR implementation, and subsequent to 10-10-10 the Valetta Treaty was also in effect, thus Stelten conducted still more mitigation excavations from 2011 to 2013. In 2012-2013 he was assisted by Joost Morsink, a former Leiden University student and PhD from the University of Florida.

Some of the more significant Valetta Treaty historical archaeology compliance projects of the SECAR have been a series of Lower Town sites rescue excavations, a survey and excavation of the new prison site and the investigation of a slave village site at Schotsenhoek (Stelten 2010, 2013). The SECAR has also cooperated with other institutions in the region for research projects on the Dutch islands, in particular and on a regular basis with Leiden University, and with the SIMARC during excavations at the Breadline site on Saba in 2010 (Havisser 2013), as well as for field research in the Joremi area in 2012 (Havisser & Stelten 2012). There

are numerous historic sites on St. Eustatius which are available for future historical archaeology research, and yet also vulnerable to the growing population and industrial expansion demands for the island's limited space.

Just as on several of the other Dutch Caribbean islands, de Josselin de Jong made a survey of St. Maarten in 1923, and he also noted but did not investigate a few historic sites, but this was the limit of his historical research contribution. By the 1950s and 1960s several local families, such as the Buncampers, Beaujons, Beuperthuys, and Wilsons, had amassed extensive ethnographic artifact collections which were finally placed into a small museum on the island in the 1960s. This museum, located at the house of Emilio Wilson, was later closed and many of the artifacts were lost, with a few specimens surviving in the current Dutch side museum and at private residences.

With the focus of professional research into the historical archaeology of St. Eustatius beginning in 1981, it is ironic that St. Maarten was given such little attention, considering that one must travel through St. Maarten to reach St. Eustatius. At the time Barka, Gluckman and Haviser made visits to historic sites such as Belvedere, but surface observations were made only, with no actual surveying, mapping, collecting or excavations. Eventually, in 1981 various historical archaeology sites were recorded for St. Maarten by Menno Sypkens Smit (1982), and in 1987 by Haviser (1988). Both of these site listings were incidentally taking place as part of prehistoric site survey projects.

In 1987 the first extensive historical archaeology excavations were conducted in cooperation with the AAINA at the Fort Amsterdam site by Jan M. Baart, the then City Archaeologist of Amsterdam. Baart conducted excavations at the Fort Amsterdam site again in 1989, with an additional minor test excavation at the Frontstreet 118 site, and collected surface finds from the Bishop Hill site (Baart 1992; Baart *et al.* 1988). Simultaneously with the mapping and excavations project at Fort Amsterdam, an underwater survey and mapping exercise around the peninsula on which it rests was carried out by Nagelkerken for the AAINA.

The College of William and Mary conducted a survey and mapping project under the direction of Norman Barka at the Welgelegen Estate plantation on St. Maarten in 1989 (Barka & Sanders 1989). This was followed from 1990 to 1992 with the mapping and surveying of various historic sites, primarily plantation estates of the 18th and 19th centuries, on the Dutch side of the island (Barka 1993). Barka then organized a symposium at the 25th meeting of the Society for Historical Archaeology, stressing the need for emergency action in site preservation on the island (Baart 1992; Barka 1992; van der Hoeven 1992). With subsequent results being that the AAINA submitted draft contracts for the control of archaeological research on the island, and the government of St. Maarten outlined an official Historic Sites Protection list for the island (VROM 1994).

Underwater survey and mapping directed by K. Bequette was conducted at the 1801 *Proselyte* shipwreck site, off the coast of St. Maarten, in 1994 and 1995 (Bequette 1995). During the 1994 field season, Bequette and S. Sanders were additionally called upon to make an emergency soil profile drawing of historic burials noted eroding from a roadcut at the Bishop Hill cemetery site (Bequette & Sanders 1995). As a mitigation for the urban planning office of St. Maarten

in 1995, the AAINA conducted a systematic array of small test excavations over the entire Fort Amsterdam peninsula in order to delineate areas of protection from development. Further survey and mapping of the historic structures at Fort Amsterdam were conducted by Havisser with the SIMARC in 2006-2008.

The first research on St. Maarten with the intention of Valetta Treaty concepts was a survey and excavations commissioned by the VROM Planning office and conducted by the AAINA at the Belvedere Plantation in 1996 (Havisser 1996a). This investigation further identified three clusters of African slave house structures associated with the plantation, an aspect of plantation sites research up to then unknown for St. Maarten. In 2004 a rescue excavation was commissioned to Havisser by the NAAM at a construction site adjacent to the Vineyard House in Philipsburg. This site was a small burial ground of Free Africans in the early-19th century consisting of 13 graves, most of which were severely damaged. In 2006 an archaeological assessment report of the Bethlehem Plantation was conducted by Menno L.P. Hoogland and Corinne L. Hofman of Leiden University and R. Grant Gilmore of the SECAR (Hoogland *et al.* 2006). This site research was an example of early compliance intention of the Valetta Treaty on St. Maarten (NAAM 2012).

The majority of archaeological research projects on St. Maarten has been conducted under the direction of Havisser by the SIMARC, which was established in 2005. In 2011 it was officially recognized by the St. Maarten government as the collections depository and research center for archaeology on the island. Some of the more prominent pure research investigations by the SIMARC over the last few years included: a questionnaire survey conducted together with the University of St. Maarten in preparation for development plans in Philipsburg; an inventory of historic trees on the island, i.e. trees with a base diameter of over 100 cm, the database of which is currently being used by the VROM Planning office; excavation and testing to locate the Jewish Burial Ground in Philipsburg, which resulted in the discovery of this 18th-century cemetery; the putting together of a GIS database map of culture-historical sites on St. Maarten in cooperation with the Amsterdam Bureau of Monuments and Archaeology; and, finally, excavations at the Golden Rock Plantation and identification and dating of its public cultural park ruins structures.

Some of the commissioned research projects of the SIMARC, which can all be seen as resulting from the compliance intention of the Valetta Treaty, include: a survey and test excavations of the Emilio Wilson Estate, a search for the African slave village associated with the plantation, commissioned by the VROM Planning office; exhumation of a 19th-century Dutch priest, conducted for the Roman Catholic Church; the Cay Bay survey and test excavations, identification of evidence for the 17th-century Dutch attack on Fort Amsterdam, commissioned by the developer prior to site development; excavation of the Over-the-Bank site, a Free African settlement, commissioned by the developer prior to the site development; rescue excavation of three 17th-century African skeletons at Zoutsteeg, Philipsburg, resulting in the find of very unique dental modifications which were then submitted to both mtDNA and strontium isotope analyses in order to trace the origins of the individuals in Africa (Schroeder *et al.* 2012), commissioned by the St. Maarten Police Department; survey and excavations of

the Rockland Plantation, commissioned by the developer prior to site development (Haviser 2012b); and cooperative research with the SECAR at the Joremi multiple plantations area on St. Eustatius, commissioned by the developers prior to the development (Haviser & Stelten 2012).

The early historical archaeology focus on the agriculturally productive St. Maarten was heavily oriented towards plantation complexes and the dominance of the Fort Amsterdam fortification as integral aspects of the cultural heritage of the island. With the introduction of the SIMARC, being a community-based program, the shift of research emphasis has been towards more African-descendent sites, heritage trees, and other-ethnic sites such as those of the Jewish population. In the context of the broader St. Maarten-St. Martin it can be mentioned that on the French side of the island archaeological research has almost completely been focused on the prehistoric period. However, the historical archaeology work by Dominique Bonnissent at the Mount Vernon Plantation site is significant (Bonnissent 2012), in particular for comparison with the plantation sites on the Dutch side.

Historical archaeology research on Saba has been rather limited, beginning once again with de Josselin de Jong's observations in 1923, his few actual site identifications and indeed his excavations in The Bottom which also produced some historic artifacts. In 1983 an island-wide archaeological survey was conducted by Haviser for the AAINA, in which both prehistoric and historic sites outside the developed residential areas were identified (Haviser 1985b). This first archaeological survey of Saba included the location and mapping of numerous historic sites and abandoned historic village complexes of the 18th through 20th centuries, of which most had never been mapped before, such as Mary's Point, Cow Pasture, Middle Island, and Spring Bay Flat. While conducting prehistoric archaeological investigations on Saba in 1987, Corinne L. Hofman and Menno L.P. Hoogland of Leiden University also noted some historic components at the Kelbey's Ridge 2 site (Hofman 1993). The doctoral dissertation on the historic architecture of Saba, submitted to the Technical University Delft by F. Brugman, which presents an extensive analysis of the historic structures of the island, is of considerable importance to historical archaeologists (Brugman 1995).

Just after the important 10-10-10 transfer date, a development project at Saba's Windwardside was confronted with a situation regarding the conditions of the Valetta Treaty. The Breadline Site developer then commissioned a SIMARC archaeological investigation in order to mitigate the site features, including removal of human graves from the site. The SIMARC in turn cooperated with Leiden University and the SECAR to conduct the project (Haviser 2013). Thus, this was the first actual Valetta Treaty compliance for Saba. The recovered Breadline burials data have produced significant insight into the cultural traditions of the Saba burial practices, such that these are the first historic human burials ever excavated on the island.

Beginning with his Master's Thesis research for Leiden University in 2009, Ryan Espersen conducted an historical archaeology investigation at the Mary's Point (Palmetto Point) isolated village settlement on Saba (Espersen 2009). More recently, for his PhD research at Leiden University, and as a Fellow with

the European Union EUROTAST Program, Espersen has conducted extensive archaeological excavations at the Cow Pasture, Middle Island, Spring Bay Flat, and Spring Bay sites, with an emphasis on the African heritage and social-cultural hierarchies of Saba. Established in 2012 by Jay Haviser with Ryan Espersen as the local director, the SABARC community-based program was created to involve Saba youth in archaeological research, and the SABARC students have been incorporated into most of the research projects conducted by Espersen over the last few years.

On Saba, as the smallest island in the Dutch Caribbean constellation, the limited historical archaeology research done has concentrated on entire village complexes as subjects of investigation, in lieu of large plantations which indeed never existed on the island. Yet, the complexity of social-cultural contexts in such a limited living space provides exciting opportunities for future research of small island cultures, including the dynamics of Archaeological Heritage Management.

It is certain that the debut of archaeology has contributed to a growing public awareness in the Netherlands Caribbean that these islands have a unique historical significance, not only for the local inhabitants, but indeed for the broader perspectives of the Caribbean and the world (Haviser & Gilmore 2011). An increased heritage consciousness is creating a direct impact on the positive development of cultural pride and a confident identity for the islanders. However, at the same time contact with foreign researchers introduces new social codes and relations among the people, thus also directly impacting and contributing to cultural transformation within the individual island societies. Just as archaeology has expanded in the Netherlands Caribbean, so too are these islands expanding as developing nations, complete with reinforcement of their traditional perspectives and absorption of new influences from abroad. The resultantly increasing heritage consciousness on the islands is helping in the formation of a more mature cultural identity, and subsequently insights into the role of cultural resource management as a useful tool through which heritage self-perception can stimulate social and economic growth.

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Achieving sustainable heritage management in Aruba

Raymundo A.C.F. Dijkhoff and Marlene S. Linville

Introduction

Created by human activities in the past, Aruba's archaeological heritage now also depends for its survival on human action. To be sustainable, management practices aimed at preserving archaeological resources must not only ensure the rights of current and future generations to develop knowledge of Aruba's past, but do so without placing undue burden on society. Leaders in the efforts to protect Aruba's archaeological resources must, therefore, develop and maintain conditions under which humans and vital archaeological resources can continue to coexist.

The preservation and management of Aruba's archaeological cultural heritage is among the primary responsibilities of the National Archaeological Museum Aruba (NAMA). Founded on December 21, 1981 as the Archeological Museum Aruba, the museum has since its inception harnessed the collective efforts of its many contributors, including researchers, administrators, political leaders, educators, and the general public, to fulfill its mission to advance the understanding and preservation of Aruba's archaeological heritage. An important development in this ongoing process was the significant investment in a new museum complex, which opened to the public in downtown Oranjestad, the capital of Aruba, in 2009. Renamed the National Archaeological Museum Aruba, the museum manages and promotes the island's archaeological resources, distinguished within two primary categories: collections and sites, the latter with the subcategories terrestrial (Figure 3.1) and marine. With its state-of-the-art facility (celebrated in July, 2009), the NAMA is well positioned to support the efforts of all stakeholders dedicated to the research, presentation, promotion, management and conservation of Aruba's archaeological heritage. Critical components of NAMA's stewardship include foresight, communication, leadership, teamwork, initiative, patience and perseverance. Primary challenges include the need for increased awareness of the value and importance of Aruba's heritage and stronger legislation, both crucial to the NAMA's ability to provide effective leadership ensuring the protection of vital cultural heritage resources.



Figure 3.1: Terrestrial site at Santa Cruz, Aruba (Photo by Harold J. Kelly).

Archaeology in Aruba

Efforts to achieve sustainable heritage management in Aruba are rooted in the island's history of archaeological investigations. Developments during several distinct periods of research (Dijkhoff 2004) have contributed incrementally to our understanding of the Aruban past, and have influenced the push toward the preservation of archaeological resources on the island. Historic documents stemming from the first half of the 19th century indicate that early investigators, such as Renier F. Baron van Raders (1827), Reverend Gerardus B. Bosch (1829-1836), and Marten D. Teenstra (1837), focused on recording the presence of linear rock designs (Dijkhoff 2004). Nearly half a century would pass until interest in Aruba's Amerindian history led to the first archaeological excavations on the island, these initiated by the Dutch Roman Catholic priest Father Antonius J. van Koolwijk, following his transfer from Curaçao to Aruba (in 1880). An enthusiastic fieldworker and keen observer, Father van Koolwijk ushered in a productive period of archaeological research characterized by small-scale excavations, surface material collecting, pictograph documentation, and studies of words of a possible Amerindian origin (largely by amateurs and enthusiastic avocationalists). This period of 'first pioneers' (1880-1923) witnessed at its conclusion the careful and scientific methods of ethnologist and linguist J.P.B. de Josselin de Jong (Dijkhoff 2004).

The transitional period that followed, characterized largely by studies of accidental finds and articles published in newspapers, would see a steady, though sporadic, increase in studies by professionally trained researchers. The Natural Science Study Group of the Netherlands Antilles (founded in 1949) helped to advance the understanding of Aruba's past by publishing investigation reports by such scientists as Pieter Wagenaar Hummelinck, Jouke Tacoma, Ab D. Ringma,

and Johannes Hartog (Dijkhoff 2004). Professor José M. Cruxent, then director of the Museo de Ciencias Naturales in Caracas, also contributed significantly to the knowledge of Aruba's past. His 1953 excavations at Santa Cruz, which followed his survey of Falcón, Venezuela in the prior decade (Oliver 1989:3), yielded 'a very substantial body of data' (*Aruba Esso News* June 19, 1953; Van Heekeren 1960:105; Linville 2004) that would subsequently contribute to a regional framework linking¹ Amerindian Arubans of the Ceramic Period to mainland peoples.

In the 1960s, sustained institutional support for archaeological research in Aruba became the norm, a significant development in the practice of archaeology on the island. While salvage excavations and excavations by untrained hobbyists continued, the formal study of Aruba's archaeological record by professional, institutionally-affiliated investigators academically trained in archaeological methods (e.g. Carel J. du Ry van Beest Holle, Hendrik R. Van Heekeren and Pieter Wagenaar Hummelinck) increasingly replaced sporadic studies and/or investigations by avocational archaeologists trained in other disciplines. Reports of scientific activities during this period served to increase local interest in archaeology. Crucial to both the development of archaeological knowledge and archaeological heritage management in Aruba was the government's investment in the Archaeological Institute of the Netherlands Antilles² (AINA and later AAINA), founded in 1967 (Dijkhoff 2004). In this same year, the Aruba Research Center, under the direction of Francis Conant, began coordinating multidisciplinary investigations of the island and surrounding areas (including excavations) by investigators of Hunter College of the City University of New York (CUNY). Among them were Principal Investigators Lorraine Heidecker and Michael I. Siegel, who excavated at Tanki Flip (and noted evidence of looting in an adjacent field).³

The progress toward effective archaeological heritage management in Aruba made another leap forward in 1970, when the government commissioned a professional, academically trained archaeologist to be permanently stationed in the Netherlands Antilles (Dijkhoff 2004). Chosen to fulfill this post was the enthusiastic and dedicated Dutchman Egbert H.J. ("Ep") Boerstra, whose decision to concentrate his work on Aruba ushered in a new era of archaeological investigations, and the enduring influence of the 'Dutch school' on professional archaeology on the island.⁴ Boerstra was the first to conduct large-scale excavations, and he investigated and published findings on many sites, with the support of the Department of Public Works (DOW), which provided eight workers to assist him during his research (Dijkhoff 2004).

1 Two years later, Cruxent analyzed collections from Dabajuro, Venezuela. From this study emerged the use of the term 'Dabajuro' to describe the area's pottery style, which could also be related to the local style Cruxent had previously recovered in Aruba (Oliver 1989; Linville 2005).

2 In 1999 the AAINA became the National Archaeological and Anthropological Museum of the Netherlands Antilles, and was recently renamed National Archaeological Anthropological Memory Management (NAAM).

3 While excavated artifacts were frequently transported to Holland and the US, the NAMA houses a considerable collection of materials excavated by these researchers from Hunter College, who each subsequently earned doctoral degrees in physical anthropology.

4 The Aruba Research Center and Hunter College concluded activities in Aruba in 1971, ending a four-year period of the 'American School'.

The government also provided funding to support the management of Aruba's archaeological cultural heritage. In 1981, after years of dedication and commitment, Boerstra at long last realized his dream when the Archaeological Museum Aruba⁵ was founded to house the large quantity of archaeological material excavated on the island, and to exhibit a portion of these artifacts. With Boerstra concluding his work in 1985, Aruban archaeology would during the subsequent three years benefit from studies by other professionals, such as W.B.J. Sterks and Cornelis N. Dubelaar. Various avocational (non-professional) archaeologists also documented their collections of archaeological material during this period. With the exception of the Odor Collection,⁶ these collections are currently housed and managed by the NAMA, in keeping with the museum's conservation initiatives.

In 1988 the museum achieved another important milestone when Aad H. Versteeg became its advisor, the result of a cooperative partnership with Leiden University (responding to an AMA request for assistance studying and presenting Aruba's archaeological heritage). Versteeg visited Aruba frequently and conducted many important excavations, using an international, multi-disciplinary approach that involved Master's degree students, and he provided academic and professional training opportunities at the museum. Several specialists joined his efforts to contribute to the knowledge of Aruba's archaeological heritage, resulting in a wide array of investigations and a series of publications. His collaboration with museum researcher Arminda C. Ruiz (now NAMA Head Arminda C. Ruiz-Franken), who contributed her knowledge of Aruba's geology and geography to a comprehensive island-wide survey, resulted in a publication (Versteeg and Ruiz 1995) that, despite subsequent discoveries, remains the most comprehensive overview of Aruban terrestrial archaeological sites. By cooperating with several international institutions to harness the diverse strengths of a multinational, multidisciplinary team of researchers trained in the latest scientific techniques, Versteeg's collaboration with the AMA for the salvage excavations and publication of the Tanki Flip site (Versteeg & Rostain 1997) 'set a new standard in Caribbean archaeology' (Dijkhoff 2004).

These research and publication efforts also significantly advanced the museum's public outreach capabilities. Museum publications sought not simply to disseminate knowledge of Aruban archaeology to the scholarly community, but placed particular emphasis on educating the Aruban public, both about the past and the need to protect it. Among these were 'youth publications' that offered young Arubans engaging accounts of Aruba's archaeological heritage, resources that would form part of the island's basic school curriculum. With a formal education program designed by former museum educator Marlene van Blarcum (beginning in 1998), the museum officially and permanently expanded its education mission (Ruiz & Dijkhoff 2001). At the temporary close of the museum's exhibit in 2005

5 In the process of becoming a foundation, the archaeological museum, formerly known as the Archeological Museum Aruba, was in 2007 renamed the National Archaeological Museum Aruba and inaugurated its current location in 2009.

6 These were stored and exhibited in the Museum of Antiquities. The Aruba Nostra Foundation also housed a collection of artifacts to which R.H. Nooyen contributed significantly.

(pending relocation), 60% of all of Aruba's fourth graders had visited the museum as part of their history curriculum.

By the close of the 20th century, Aruban archaeological heritage management was fundamentally transformed when the government began to invest in the professional development of native Arubans academically trained in the methods and theory of archaeology. After completing Master's studies at Leiden University, Raymundo A.C.F. Dijkhoff became Aruba's first native professional archaeologist, joining the museum to head its Scientific Department in 1999; he would soon be joined by fellow Leiden alumnus and native Aruban archaeologist Harold J. Kelly, who completed his Master's studies in 2003.

These developments, which increasingly placed Aruban nationals in archaeological heritage leadership positions, reinforced the museum's heritage preservation focus, which by 2001 had emerged as the museum's 'one main priority' (Ruiz & Dijkhoff 2001:5). They also coincided with the museum's efforts to expand the scope of archaeological inquiry, beginning with a project, designed by Arminda C. Ruiz and Cuban archaeologist Ramón Dacal Moure, to study Aruba's marine shell heritage. Emerging in the context of the Tanki Flip excavations, and subsequently directed by Raymundo A.C.F. Dijkhoff, this project, with contributions by investigators from Aruba (Arminda C. Ruiz, Raymundo A.C.F. Dijkhoff, Harold J. Kelly, Francisco Croes, Gianni H.J. ("Hiram") Angela, and Byron G. Boekhoudt), as well as from both Cuba (Ramón Dacal Moure and Ricardo Sampedro Hernández) and the US (Marlene S. Linville), sought to maximize the research value of the AMA shell collections and investigate Aruba's shell matrix sites. Significantly, the publication reporting this research (Dijkhoff & Linville 2004), with its strong heritage preservation message, did not target the research community, but was instead produced expressly for the Aruban people (Ruiz & Dacal 2004). The project also provided a platform for doctoral research examining the utility of museum shell collections in studies of the past and the preservation issues impacting such studies (Linville 2005).

The museum's heritage preservation initiative also aimed to increase public involvement in museum activities. An important part of this strategic plan included the expansion of its education department. The timely addition in 2003 of education specialists Marguerita Wever and Suzy J. Boekhoudt strengthened the museum's ability to disseminate knowledge gained through research. Working collaboratively with these specialists, project archaeologists and other investigators of the Shell Project participated in a variety of public-oriented programs designed not simply to present our research findings, but to offer invaluable opportunities to emphasize the importance of context in the study of archaeological materials, and the concomitant necessity of protecting archaeological sites.⁷

7 Among these was a program designed for secondary school students.



Figure 3.2: The new National Archaeological Museum Aruba, which opened its state-of-the-art facilities to the public in 2009 (Photo by Harold J. Kelly).

The National Archaeological Museum Aruba (2007)

Since the founding of Aruba’s first archaeological museum (AMA, 1981), each decade has brought new objectives. From the early focus on securing a physical space suitable for exhibiting the large archaeological collection amassed over a century, through the emphasis on research, documentation, and educational activities designed to inform public understanding during the 1990s, to the primary focus during the first decade of the 21st century (the creation of state-of-the-art facilities), each decade has witnessed the development of new building blocks useful in the collective efforts to advance archaeological heritage management practices in Aruba.

Generous funding for the new NAMA complex (Figure 3.2) is recognized as a critical step toward achieving sustainability in the management of Aruba’s cultural heritage. With an investment exceeding ten million US dollars, the NAMA, located in a congregant area of Oranjestad, the capital of Aruba, is now equipped with state-of-the-art facilities supporting effective research, administration, conservation and presentation of cultural resources. The museum itself is a work of historic preservation, providing a fine example of how historic treasures of the past can be repurposed to serve current needs. With the financial aid of the Aruban Government, the European Union⁸ and UNOCA (NGO), the historic complex (1870-1929) of the Ecury family⁹ could be acquired and restored to all its glory. The NAMA houses a permanent exposition (an investment of 3 million Aruban florins), an interactive exhibit of Aruba’s Amerindian material culture (Figure 3.3), and also features (in an adjacent two-story building) temporary exhibitions on a variety of cultural themes. The museum’s central location and spacious visitor-

8 In accordance with developments in The Netherlands during the nineties, the European Union, which does not invest in governmental organizations, required as a condition of its assistance the transition of the NAMA to an NGO, a process currently in its final stages.

9 Aruba’s World War II hero, Segundo Jorge Adelberto (“Boy”) Ecury, was born and lived there.



Figure 3.3: The NAMA's interactive exhibits, frequently enjoyed by young people, support the museum's education mission (Photo by Nadine Salas).

friendly features (e.g. didactic exhibits, air conditioning, space available to host functions, auditorium) are all optimal for attracting both locals and tourists.¹⁰

The NAMA consists of four departments: Collections and Research; Public Services; Facilities and Operations; and Directorate/Management. Each is being fully equipped to facilitate optimal heritage management. By providing these facilities for the NAMA, the Aruban government and other supportive members of the NAMA community have demonstrated an understanding of the need for due diligence in the management and promotion of Aruba's archaeological cultural heritage. With resources to invest in all necessary personnel, and additional revenue potentially generated through service activities (e.g. souvenir and publication sales, space rental¹¹), the museum is poised to achieve its research and cultural heritage management objectives.

As archaeological research in Aruba turns its attention toward the island's Historic Period and submerged sites (Figure 3.4), two site categories heretofore underdeveloped in studies of Aruban archaeology, the NAMA will continue to harness multidisciplinary knowledge, enlisting the contributions of a variety of specialists (e.g. linguists, cultural and physical anthropologists, historians and geologists), all working together to piece together the whole Aruban archaeological puzzle. While it simultaneously works to effect sustainable heritage management practices, the museum remains committed to international cooperation, and also strives to include local professionals in archaeological research projects, honoring

10 A restaurant and a museum shop are scheduled to open soon.

11 The museum can potentially generate substantial revenue by renting facilities for purposes beyond their formal function.



Figure 3.4: The German freighter Antilla, which sank in 1942 near the coast at Malmok, is one of Aruba's many sub-aquatic sites (Photo by Harold J. Kelly).

and promoting the cultural value and importance of involving native Arubans in the study of the past. What Aruba now needs is something that it must have to support the NAMA's considerable efforts to protect Aruba's archaeological heritage: adequate legislation.

The push toward sustainable archaeological heritage management in Aruba

Sustainability in the management of Aruba's archaeological heritage is a goal highly dependent on the actions of all stakeholders. Pending Aruba's compliance with the Malta Convention, which has been both ratified (1992) and implemented (1998) by The Netherlands, NAMA officials have redoubled their efforts not only to educate the Aruban people on the merits of archaeological heritage protection, but also to develop strong social and professional networks facilitating the implementation of other proactive measures aimed at protecting Aruba's archaeological sites (summarized in Figure 3.5).

Education: Creating awareness and sustainability

NAMA officials embrace as a responsibility of leadership the challenge of garnering broad-based public support for the protection of Aruba's archaeological heritage. The museum's education and other public outreach programs support efforts aimed at increasing public awareness of the importance of studying and

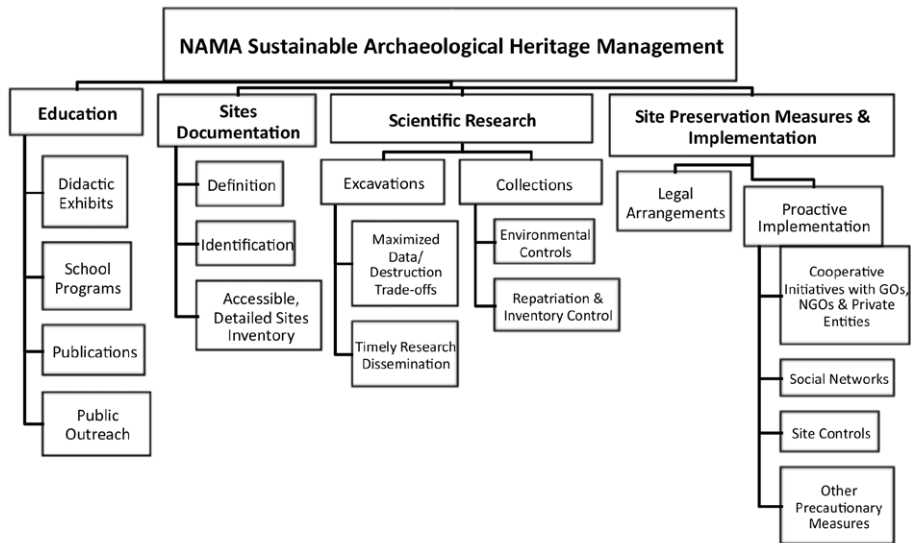


Figure 3.5: The NAMA's sustainable archaeological heritage management structure.

preserving both historic and prehistoric evidence of the Aruban past. Since the AMA's founding in 1981, museum authorities have focused considerable resources toward increasing awareness not only among Arubans, but also among tourists and other island visitors. While initial public outreach efforts sought primarily to disseminate research results, the need to protect archaeological sites soon became apparent.

Contemporary Aruban society is comprised of people from at least 96 countries,¹² each contributing to the social fabric of the whole. While few are known to self-identify as ethnic Caquetío, the island's inhabitants at the dawn of Aruba's Historic Period, 'the Amerindian legacy is of great importance to the Aruban population' (Alofs 2001:241), and many Arubans do recognize their Amerindian ancestry (Linville 2005). Aruba's Amerindian cultural heritage also endures in the island's abundant archaeological resources, both tangible and intangible (e.g. the island's many Amerindian toponyms), and as a significant, socially valued form of cultural capital. Even Arubans more oriented toward the future generally understand the importance of preserving Aruba's past. The NAMA's efforts to achieve sustainable archaeological heritage management aim to develop as core value this Aruban reverence for the past.

Yet, economic development, particularly since Aruba achieved Status Aparte¹³ in 1986, has had a significant impact on the cultural landscape, one that continues to threaten (or has already partially destroyed) many of Aruba's archaeological terrestrial sites. While the pace of development in Aruba presents a formidable challenge to sustainable heritage management, an understanding of

12 Fifth Population and Housing Census Aruba, Selected Tables. Central Bureau of Statistics, Oranjestad, Aruba, 2010.

13 This status provided Aruba an autonomous position within the Kingdom of The Netherlands, affording the island nation its own government and monetary currency.

the economic value of Aruba's archaeological heritage to tourism favors strongly a serious consideration of the costs and benefits of any development threatening archaeological sites.

Public outreach efforts seek to prevent (or at least minimize) site destruction by informing the Aruban people (including legislative leaders) and island visitors about the existence of these threats and the potential consequences of our collective failure to protect Aruba's archaeological resources buried in the 'soil archive' on both public and private lands. Yet, while they aim to foster the determination to protect Aruba's archaeological heritage, such efforts must also be sensitive to changing perceptions among the Aruban people. For example, although the NAMA's ability to achieve sustainable archaeology heritage management certainly precludes private collecting of archaeological remains, and the museum actively seeks to discourage such activities, it has in the past favored an inclusive model recognizing contributions of early collectors, particularly those whose efforts to preserve Aruba's past predate the establishment of an archaeological museum on the island by many years. While recognized as untenable going forward, this approach may, nevertheless, be credited with garnering goodwill among early collectors and concomitant cooperation in the preservation of archaeological data that may otherwise have been squandered.

To facilitate the transition between past practices and needed policy, the museum community offers public programs highlighting the island's invaluable archaeological resources. While such efforts have increased significantly in the last five years, one example predating the construction of the NAMA's new facilities, 'Archaeology in your backyard,' harnessed the widespread publicity surrounding the 19th conference of the International Association of Caribbean Archaeology (hosted by Aruba in 2001) to bring together the Aruban people and archaeologists from a variety of nations for an informative presentation by Cuban archaeologist Lourdes Dominguez underscoring the fragile and finite nature of the archaeological record, which was followed by an open discussion addressing how best to protect it (Linville & Dijkhoff 2004).

With the founding of the new museum complex, the NAMA also sought to expand its education message with the development of *Ceque*, the museum's journal. Aimed at extending the reach of knowledge gained through research, and doing so in a timely manner, *Ceque* will provide opportunities for both local and international scholars specialized in diverse disciplines to publish research that expands knowledge of Aruba's past for the museum-going public, contributions that also promote (either directly or indirectly) the protection of Aruba's archaeological heritage.

Archaeological sites documentation

Implementing protection measures in accordance with the NAMA's policy of archaeological cultural heritage preservation and management requires first a clear definition of Aruban archaeological sites, a measure particularly important for our partners, which include government organizations (GOs), such as urban and rural planning departments (Service for Town and Country Planning) governing

legal arrangements to support the preservation and management of archaeological heritage, and non-governmental organizations (NGOs) that can support implementation of these arrangements. To understand clearly what is at stake, partners in the effort to preserve Aruba's archaeological cultural heritage must be provided with explanations of precisely what a site is, in terms not targeting the scientific community, but aimed at the public. Jargon-free language explaining the Aruban archaeological situation and the material culture of societies that left their traces on the island can also assist efforts of partners to communicate to their constituents the need to protect the archaeological record.

Once a clear, understandable definition of Aruban archaeological sites is formulated, the complete documentation of each site is the second critical step in the process supporting the development of needed legislation, and is, therefore, of fundamental importance. Each site must be individually described, complete with scientific assessment and detailed data, such as precise geographic location, size, and other characteristics specific to the site. Without this documentation, partners in the protection and management of Aruba's archaeological cultural heritage are left without a clear understanding of exactly what they are asked to protect. This information must also be provided in a manner easily accessible to all GO and NGO partners. The use of software common to all partners has greatly facilitated data sharing across relevant organizations, the NAMA and the DIP (Department for Infrastructure and Planning) among them. In addition to supporting protection measures, this basic site data also supports subsequent research.

Scientific research

Scientific research is a vital component of our work, one that not only supports the NAMA's mission to develop knowledge of the Aruban past, but also to promote and protect the island's archaeological heritage. Archaeological research serves diverse interests, with research results important for the archaeological scientific community, as well as disparate other target groups (local and international). Sustainable scientific research practices in Aruba aim to minimally impact the archaeological record; among them are concerted efforts to maximize the trade-offs inherent in excavation activities, and encourage the timely dissemination of research findings, at international conferences, in local workshops, and in publications that also serve to educate the public, stimulate public interest, and advance the cause of heritage preservation.¹⁴

In addition to NAMA salvage excavations and the ongoing doctoral research projects of NAMA Archaeologists Raymundo A.C.F. Dijkhoff and Harold J. Kelly, current research efforts include Harold J. Kelly's research on coral in the collections of Dutch Caribbean institutions, and other collaborative projects with regional partners (e.g. Colombian universities, and the Museo del Oro in Bogotá, Colombia). The recent study of a sailor's grave at Boc'i Brik/Puente by NAMA investigators Raymundo A.C.F. Dijkhoff, Harold J. Kelly, Francisco Croes, and Gianni H.J. Angela (Dijkhoff *et al.* 2012) reflects at once the NAMA's emergent

14 Significantly, the NAMA policy emphasizes the necessity to study and publish extant data before acquiring more artifacts and data through excavations.

focus on Aruba's Historic Period, its commitment to involving native Arubans in archaeological research, and its obligation to be responsive to immediate community needs with investigations and reports that serve Aruba's long term heritage preservation goals.

In addition to promoting the protection of archaeological resources in the 'soil archive,' the NAMA also strives to retrieve collections resulting from early investigations that are currently housed in repositories outside the island. Given the museum's new facilities, the return of these collections will enable the NAMA not only to better safeguard Aruba's archaeological heritage, but also to reinforce its position as the preeminent resource for researchers seeking to further develop knowledge of Aruba's past.

Archaeological site preservation

In their efforts to bridge the gap between existing law and needed protection for archaeological sites, the NAMA's stakeholders have joined forces to enact proactive measures, including legal arrangements that make alternative use of existing ordinances aimed at protecting other cultural resources, and the implementation of other practical measures harnessing the energy, creativity, and good intentions of all who share our determination to preserve for future generations the archaeological potential of Aruba's soil archive.

Legal arrangements

With current laws only indirectly governing the preservation and management of archaeological sites, legal protection for Aruba's archaeological cultural heritage at present is wanting. Support is limited to a single ordinance providing for the protection of monuments, and ordinances governing buildings, housing, and spatial development. The Monument Ordinance of Aruba (AB 1991 no. GT 46) has supported the protection of a site/find on precisely one occasion in 2009, never before or since. The text of this ordinance has undergone few changes since its implementation in 1966. Article 18 provides only a very marginal protection in the case of excavations or finds. At present, we have no archaeological protected monument according to this ordinance.

However, in 2013 NAMA Archaeologist Harold J. Kelly, Gianni H.J. Angela, and Francisco Croes advanced the museum's concerted efforts to nominate archaeological sites for legal protection by thoroughly describing ten sites (in the legal format required). Museum officials are now in the process of submitting them to the Ministry of Culture for placement on the protected monuments list. Both the NAMA and the Bureau of Monuments, the entity responsible for assigning protected status to buildings and sites in Aruba, share the commitment to achieve legal protection status for these sites with their placement on the 'protected list' by the end of 2015.

Legal protection of sites using other legal arrangements has proven very difficult. Aruba's building regulations and housing ordinance, which is quite outdated, permits the refusal of a construction permit only in the event of 'esthetical irresponsible design' or 'technical traffic danger.' A more recent law,

introduced in 2006, The National Ordinance Spatial Development (LRO¹⁵), states in articles 33 and 35 that when developing an allotment plan, cultural historical elements must be taken into account. However, subsequent events (2007-2008) support the contention that this ordinance does not guarantee the protection of archaeological sites.

Striving to maximize its ability to maintain Aruba's archaeological heritage *in situ*, the NAMA aims to be involved in the formulation of Aruba's spatial development plans, and has contributed to the development of ten-year national spatial development plans (since 2005). The NAMA actively participated in the Spatial Development Plan (ROP¹⁶) led by the Department of Infrastructure and Planning (2008). This plan, which involves all national stakeholders, depends on the Law on Spatial Ordination.

In recent years, the Maritime Department, together with the government of Aruba and other stakeholders (e.g. the NAMA), has developed Landsverordening houdende regels voor maritieme zones van Aruba (Landsverordening maritiem beheer)/ National Ordinance on rules for maritime zones of Aruba (Ordinance Maritime Management), a plan (now in its final phase) that will soon be presented to the Parliament of Aruba. One provision of this ordinance will govern the protection of Aruba's sub-aquatic archaeological heritage, in accordance with guidelines of the UNESCO Convention (2001).

Proactive implementation of site preservation measures

Absent laws firmly grounded in the principles of the Malta Convention/Valetta Treaty, the NAMA makes every effort to observe the guidelines of the convention/ treaty in its efforts to implement measures designed to protect Aruba's archaeological sites, measures that could also potentially increase the efficacy of any regulations that may be forthcoming. To mitigate threats to archaeological sites, the NAMA not only collaborates with Aruba's governmental organizations focused on urban and rural planning (the DOW and DIP among them), but also works closely with individuals, private enterprises, and NGOs, especially the Parke Nacional Arikok (PNA), a protected natural area comprising nearly 20% of Aruba's surface area and many archaeological sites. (While established by Ministerial Order in 2000, the PNA, which became a foundation in 2003, is administered as an NGO.)

As community leaders promoting identity, culture and history, museum officials have achieved a respected position within Aruban society. This influence affords the NAMA a voice in the formulation of spatial development plans. For the past ten years, Raymundo A.C.F. Dijkhoff, Chief of the NAMA's Scientific Department (and first author of this chapter) has been a member of the Aesthetic (Construction) Commission (*à titre personnel*), with a voice in the planning of all construction projects on the island. This affords the NAMA the ability to intervene temporarily, when necessary, to assess the potential impact on archaeological resources whenever construction activities will occur in an archaeological area. Yet, development at

15 Landsverordening Ruimtelijke Ontwikkeling (2006).

16 Ruimtelijk Ontwikkelingsplan (2008).

some important sites (e.g. Savaneta and Santa Cruz) has underscored both the limits of this influence and the need for additional protection measures.

One example of the NAMA's efforts to use all means at its disposal to achieve sustainable sites management is the development of an experimental plan to install 'warning signs' in dune areas in order to gauge their precautionary effectiveness in archaeological site protection. If successful, this plan (inspired by the use of signs by the PNA that provide sections of legal ordinances protecting the dunes against motorized vehicles) may offer both a precaution averting the destruction of archaeological sites and an opportunity to educate park visitors about Aruba's determination to protect them.

NAMA officials understand the vital importance of educating the Aruban people and the island's many visitors about the need to preserve Aruba's cultural heritage, both Amerindian archaeological sites and colonial cultural landscapes, including culturally constructed environments. This has facilitated the development of 'neighborhood watch' networks of supporters who alert NAMA officials when suspicious or destructive activities arise in archaeological areas.

While NAMA investigators respond quickly to reports of archaeological site activities, they also proactively conduct site controls on a regular basis, an essential means of gaining insight on changes to sites and/or mitigating site transformation processes. To ensure the success of these efforts, museum officials have long counted on the cooperation of private landowners and the general public. This community assistance is particularly vital for sites that are readily visible, such as pictograph sites. Proactive measures to protect vulnerable pictograph sites have included the 1996 AMA project to remove graffiti at the entrance of Fontein Cave, the 2007 installation of iron bars at Casi Bari, and a 2009 experimental program aimed at forestalling transformation processes caused by guano and dust, among others.

Pictograph dust removal projects on both public and private properties are ongoing. A 2012 campaign to remove dust from the pictographs at Ayo aimed to involve local secondary school students from Santa Cruz in heritage conservation. Guided by NAMA Archaeologist Harold J. Kelly, the students participated as part of a school project/competition sponsored by a local bank (which awarded the students a cash prize of 10,000 Aruban florins).

Conclusion

The historical trajectory of research on Aruba's past has witnessed an increasingly professional and institutionally supported approach to archaeological research, one that has provided a solid foundation to support sustainable cultural heritage management practices in Aruba. By far the most significant development in the museum's ability to achieve its sustainable archaeological heritage management objectives was the investment in the new National Archaeological Museum Aruba complex (NAMA), which opened in 2009. While these new facilities have contributed immeasurably to the museum's ability to be effective stewards of Aruba's archaeological collections, the ability to achieve sustainability in the

management of the island's archaeological heritage located beyond museum walls is inexorably dependent on the actions of all who encounter or otherwise have the potential to impact the island's archaeological sites.

Protection of archaeological sites

As the protection of Aruba's archaeological sites is an absolute *condicio sine qua non* for their continued study and documentation, efforts to build public consensus of the indispensability of the development and implementation of legislation protecting Aruba's archaeological heritage are, therefore, imperative.

Legislation, essential and insufficient

Experience has shown, however, that effective stewardship of Aruba's archaeological resources requires not only laws to compel the protection of the island's archaeological sites. Achieving sustainable heritage management in Aruba is also highly dependent on widespread public recognition of the value of protecting Aruba's fragile and finite archaeological resources, including its historic built environment. Education (including public outreach) is also, therefore, *condicio sine qua non* for achieving sustainability for Aruba's archaeological heritage.

NAMA efforts synchronous, not sequential

Current conditions on Aruba require the NAMA to employ a synchronic approach to the management and preservation of the island's archaeological cultural heritage, one that aims to develop simultaneously the four main pillars supporting effective stewardship of these resources: education (including public outreach efforts); site documentation (including definition, identification, and detailed documentation accessible to preservation partners); scientific research, and preservation and conservation measures (which include the development and implementation of proactive initiatives aimed at protecting archaeological sites). All are vital to our collective efforts to protect the potential of these vulnerable resources to inform our understanding of Aruba's past cultures.

Vital networks

In the wake of Aruba's *Status Aparte* in 1986, economic development on the island has led to the (partial) destruction of many archaeological sites. While the NAMA has built (and employs to great effect) networks of stakeholders working to safeguard these vital cultural resources, without the legislation needed to ensure their protection, stopgap measures will leave insufficiently addressed the many significant on-going threats to these vital aspects of the island's cultural heritage. Understanding that only with a population intent on preserving the potential to study and document archaeological sites will the implementation of protection measures be feasible, the NAMA continues its efforts to both develop and harness the significant value that many Arubans place on the past.

Toward the Malta Convention/Valetta Treaty

Absent the legislation needed to resolve questions regarding who owns the past in favor of the collective whole (Linville & Dijkhoff 2004), the NAMA counts on widespread support of the Aruban people, not only to join efforts to safeguard the archaeological record, but also to exert their influence on legislators, by lobbying or otherwise encouraging them to effect laws to prevent the destruction of vital terrestrial and maritime archaeological sites. As the NAMA strives to further develop preservation and management practices by implementing principles that are both in accordance with the Malta Convention and suited to the Aruban context (these detailed in the NAMA's 2012 Policy Plan for Research, Documentation and Management, developed by Plantage Zorg en Hoop¹⁷), we implore all stakeholders, including concerned governmental organizations, to address this issue as a priority, to recognize that regulations that will enforce preservation measures are fundamental to the drive toward achieving sustainable archaeological heritage management. Determined to achieve sustainability for Aruba's archaeological heritage, the NAMA will continue its efforts to ensure that future generations, those who will undoubtedly be better positioned to interpret the archaeological record (at least technologically), will not be denied the privilege we now enjoy—the potential to develop a better understanding of the Aruban past.

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Heritage Management on Bonaire and Curaçao

A step towards an integral approach to heritage

Richenel Ansano and Claudia T. Kraan

Introduction

Prior to October 10, 2010 Curaçao and Bonaire were constituent parts of the Netherlands Antilles, which in turn was part of the Kingdom of the Netherlands. Since 10-10-10 the Island Territory of Curaçao, consisting of Curaçao and Klein Curaçao, has become an autonomous country within the Kingdom. From that date onward the Island Territories of Bonaire (Bonaire and Klein Bonaire), St. Eustatius and Saba have become special municipalities of the (European) Netherlands. This status change within the realm of both Curaçao and Bonaire also made for changes in the area of heritage management. While Curaçao is now fully self-responsible for the way in which its heritage is managed, Bonaire feels the pressure from the (European) Netherlands to properly regulate especially the management of its archaeological heritage. On both Bonaire and at the National Archaeological-Anthropological Memory Management (NAAM) as a local Curaçaoan heritage institute the need exists for an integrated vision and approach to heritage. This means that not only the archaeological heritage gets attention: the corresponding built and intangible heritage ought to be taken into account at the same time. This chapter provides an overview of how both Curaçao and Bonaire pursue an integrated heritage management.

NAAM's vision on heritage is integral. Material heritage such as archaeological and built heritage have an increased value when viewed together. This value can be even more substantial when combined with intangible heritage.¹⁸ Stories and

18 The term 'intangible heritage' has become prevalent as a policy orientation and for creating instruments of research, preservation and promoting public awareness since UNESCO's 2003 Convention for the Safeguarding of Intangible Cultural Heritage. It aims at moving beyond the appreciation of only built monuments and collections of artifacts. It includes among other things: oral traditions, rituals, knowledge and practices concerning nature and the universe, festive events, performing arts, social practices, as well as knowledge and skills to produce traditional crafts.

traditions complement the tangible heritage¹⁹ to give a more complete picture of the past. Despite the added value of an integrated vision of heritage, it is still a laborious process to get all actors to adopt the same line within the heritage management of both Curaçao and Bonaire. Slowly but surely, however, the process has started over the past few years and is getting more and more defined: an approach in which co-operation between the different heritage areas is paramount to achieve an integrated heritage policy and implementation. Nature management remains even less understood or considered in the process. Although there are tactical and sometimes strategic collaborations which incorporate nature management, there is still somewhat of a philosophical limitation where nature is not yet understood also as heritage. Some international perspectives on nature management and the newer formulations of intangible heritage might provide a framework for its inclusion.

Relevant treaties

The following three conventions play an important role regarding the heritage management on Curaçao and Bonaire.

European Convention on the Protection of the Archaeological Heritage

In 1992 the European Convention for the Protection of the Archaeological Heritage was ratified by the (European) Netherlands for the Kingdom in Valetta, Malta. For the former Netherlands Antilles this so-called Valetta Treaty or Malta Convention went into effect by its publication in the *Netherlands Antilles Official Gazette no.86* in 1998. In summary, the Convention includes the following topics:

- Description of the archaeological heritage (Article 1);
- Indication of the heritage and its protection measures (Articles 2, 3 and 4);
- Integrated preservation of the archaeological heritage (Article 5);
- Financing of archaeological research and preservation (Article 6);
- Collection and distribution of scientific information (Articles 7 and 8);
- Raising public awareness (Article 9);
- Prevention of illegal trafficking of archaeological artifacts (Articles 10 and 11);
- Mutual technical and scientific support (Article 12).

Convention on the Protection of the Underwater Cultural Heritage

The UNESCO Convention on the Protection of the Underwater Cultural Heritage (2001) prioritizes the management of the archaeological underwater heritage in situ. The Convention tries to stimulate co-operation between state parties on

19 At present 'tangible heritage' includes built monuments, collections of artifacts and special singular objects. Archaeological sites are included depending on the national legislation. Some organizations also include natural sites as tangible heritage. The juncture of tangible and intangible is fluid since all heritage includes elements of both and would not be definable as heritage without using both perspectives.

the subject of protection and preservation of the underwater heritage. Also, the Convention mentions the active reporting of finds, information exchange, sharing of knowledge, and the installation of protection measures.

Convention for the Safeguarding of Intangible Cultural Heritage

The main aims of the UNESCO Convention for the Safeguarding of Intangible Cultural Heritage (2003) are:

- Safeguarding of the intangible cultural heritage;
- Ensuring respect for the intangible cultural heritage of the communities, groups and individuals concerned;
- Raising awareness at the local, national and international levels of the importance of the intangible cultural heritage, and of ensuring mutual appreciation thereof;
- Providing for international co-operation and assistance.

In 2011 the Government of Curaçao considered it appropriate for this Convention to apply to Curaçao. It turned out that implementation legislation needed to be made or adapted for Curaçao before the treaty could be ratified. While this has not yet taken place, the Netherlands ratified the Convention on May 15, 2012, which made it operable in the (European) Netherlands, including Bonaire, Saba and St. Eustatius, on August 15 of that year. It also became applicable to Aruba on that date, while Curaçao and St. Maarten still need to request applicability.

Curaçao

The existing legislation did not change with the transition of the island to becoming an autonomous country. The policy, policy instruments and archaeological procedures have not changed either since 10-10-10.

Legislation

Island Ordinance on Monuments²⁰

The Valetta Treaty has not been implemented yet in the Island Ordinance on Monuments of Curaçao (1990) despite the desire from the field to do so and also to implement the UNESCO Convention for the Safeguarding of Intangible Cultural Heritage. This would facilitate an integrated approach at policy level of at least the archaeological and intangible heritage of the island. Despite the fact that the implementation of the Valetta Treaty has not been realized to date, already there exist a number of aspects in the Island Ordinance on Monuments which can be utilized in archaeology. At present, the laws of Curaçao lack any framework for the protection of the intangible heritage of the island.

20 Monumenteneilandsverordening Curaçao.

The Island Ordinance on Monuments focuses especially on built monuments, but some articles discuss the archaeological heritage and its protection. For instance, Article 1 states that movable and immovable heritage items of 50 years or older are regarded as monuments. Considering this definition, ceramic or glass sherds, coins, etc. are monuments (*Explanatory Memorandum*, Article 18). Article 8 is important for the protection of archaeological remains. This article provides that it is prohibited to carry out excavation work or the locating and studying of monuments without authorization. Since monuments may be archaeological artifacts, all archaeological research requires authorization. Note that this provision applies to all monuments: a protected status is not required.

Article 18, paragraph 2, states that finds made during excavations and digging work, representing movable monuments, or at least objects of which the finder can reasonably assume that they should be considered as such, ought to be reported to the Executive Council within three days.

Maritime Management Ordinance

With respect to the underwater heritage, the National Ordinance Maritime Management (Landsverordening Maritiem Beheer, 2007) is of great importance. In drafting the ordinance, the UNESCO Convention on the Protection of the Underwater Cultural Heritage was implemented while the Valetta Treaty was taken into account in some ways. The ordinance determines among other issues the presence of an Archaeological Information Desk for the maritime archaeological heritage (Article 31), which in this case is NAAM, and the obligation to apply for maritime archaeological research and other investigations (Article 30). This ordinance also provides for the possibility of designating protected areas (Article 29).

Policy and policy instruments

For Curaçao two instruments have been developed to operationalize archaeological policy: the *Mapa di Balor Kultural Históriko di Kòrsou* (NAAM 2009), the Cultural Heritage Map of Curaçao, and the *Maneho di Arkeologia Kòrsou. Nota Archeologisch Beleid Curaçao* (NAAM & BMA, 2008), the archaeological policy document of the island. For intangible heritage no established policy has been formulated to date, although some has been included in the Cultural Heritage Map of Curaçao (see below).

Curaçao Archaeology Policy Plan

The *Maneho di arkeologia Kòrsou* (NAAM & BMA 2008) describes Curaçao's archaeological policy and procedures. It was drafted by NAAM in co-operation with the Archaeological Working Group Curaçao, the Amsterdam Bureau for Monuments and Archaeology (BMA) and the DROV²¹, the former government agency dealing with monuments and archaeology. The flow chart shown in

21 Directie Ruimtelijke Ontwikkeling en Planning.

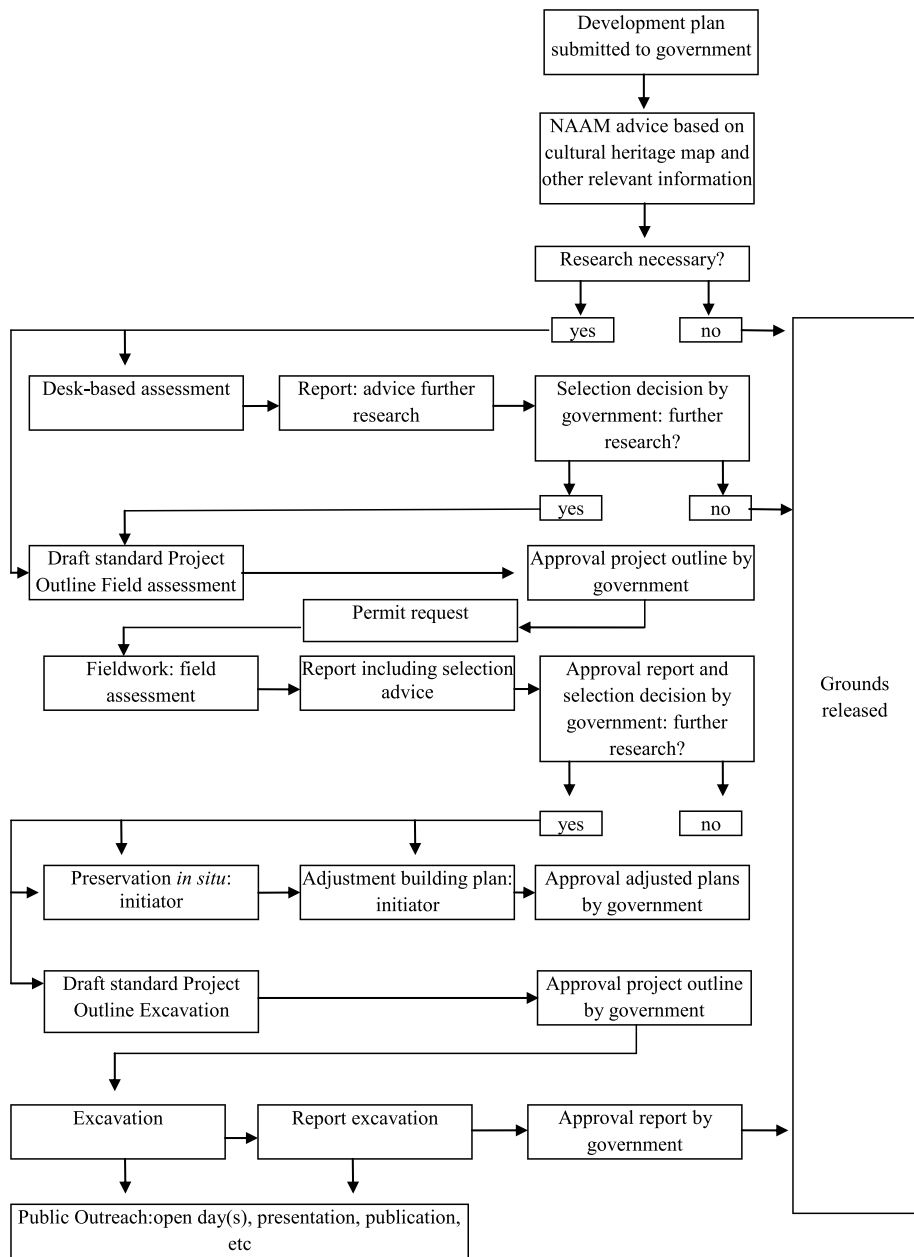


Figure 4.1: Flow chart showing the archaeological procedures on Curaçao.

Figure 4.1 represents the archaeological process for research on land and water on the island. Because the government lacks an archaeologist since the dismantling of the Netherlands Antilles, NAAM has taken up the task to advise the relevant government offices on archaeology.

The project outline plays an important role in the archaeological process. It regulates which fieldwork strategies and methods should be used, the necessary qualities of the field archaeologist(s), the way in which the field documentation has

to be handed over, and how the public is supposed to be reached. The procedure has been designed for archaeological research, but it can be used to regulate other anthropological research as well.

Cultural Heritage Map of Curaçao

The *Mapa di balor kultural històriko di Kòrsou* (NAAM 2009) was developed by NAAM in co-operation with the BMA and the Archaeological Working Group Curaçao. The government, NAAM, developers, and private individuals use the map in order to clarify the presence of cultural heritage values at a location in the field. The map shows zones of high archaeological value indicated by prehistoric (orange) and historic sites (multiple colors), maritime sites (blue), and places of memory (green). For these areas, projects with a surface area coverage greater than 50 m² are identified as requiring archaeological research. For the white areas a minimum of 5 ha applies. Since more and more sites have been identified and more clarity on a number of marine sites has been obtained in recent years, NAAM strives to produce an updated version of the map by 2014. Intangible heritage will also be more prominently visible on this map.

Bonaire

Since the dismantling of the Netherlands Antilles the Dutch Ministry of Education, Culture and Science (OCW²²) has urged the local public bodies to anchor the Malta Convention in their legislation and policy. For OCW it is not desirable to implement this according to Dutch formats due to the difference in systems and sizes of the islands compared to the (European) Netherlands. OCW therefore commissioned NAAM to explore the issues regarding implementation of the Valetta Treaty on Bonaire, St. Eustatius and Saba. Point of departure was the treaty itself instead of the existing situation in the Netherlands. The NAAM study focuses on four areas: legislation, enforcement, implementation, and monitoring (Dijkshoorn *et al.* 2012). Based on this survey, in June 2012 NAAM received a request from the Executive Council of Bonaire to assist the island in implementing the Malta Convention, based on a 2009 co-operation protocol between NAAM and Bonaire. The request contains an island-specific implementation plan including the drafting of an archaeological and built heritage policy, making a cultural heritage map and adapting the existing island regulations (Kraan 2012).

Legislation

Island Ordinance on Monuments Bonaire²³

This regulation was already adapted to some extent to the Malta Convention in 2008. Work on its full implementation within the framework of this regulation is ongoing at the time of writing this chapter. Attention will be paid to the existing

22 Ministerie van Onderwijs, Cultuur en Wetenschap.

23 Monumenteneilandsverordening Bonaire.

monuments in the adaptations, so that for example architectural-historical research may still occur prior to eventual demolition. In this way, valuable information on the built heritage will remain available for future generations even after demolition. This method is similar to the procedure for archaeological research prior to the removal of sites where in situ preservation of archaeological values is not possible or where insufficient archaeological value exists to justify this.

Something similar is desirable for research on intangible culture at sites where a location changes in such a manner that the intangible heritage associated with this site becomes (more) difficult or impossible to connect to it. To frame this research in a culture-historical process, the ordinance provides room for the incorporation of the intangible heritage in the legislation. This is partly achieved by focusing on the European Landscape Convention (Council of Europe 2000). This so-called Florence Convention aims to promote landscape protection, management and planning, and to organize European co-operation on landscape issues. Its focus on nature-human interaction in the formation and maintenance of landscapes provides a basis for recognizing and protecting intangible heritage as it relates to landscapes.

BES Monuments Regulation²⁴

This legislation is in force for all three special municipalities of the (European) Netherlands: Bonaire, St. Eustatius and Saba (BES), and stems from the Netherlands Antilles Monument Ordinance (Monumenten Landsverordening Nederlandse Antillen, 1992). The changes that need to be made to the BES Monuments Regulation for Bonaire while implementing the Valetta Treaty will be presented to the government at the time of evaluation of the legislation in 2015.

BES Maritime Management Regulation²⁵

The underwater archaeology of Bonaire is covered by the BES Maritime Management Regulation which was implemented by Rijkswaterstaat of the Netherlands Ministry of Infrastructure and the Environment. This law derives from the Maritime Management Ordinance, the Landsverordening Maritiem Beheer, as set up for the Netherlands Antilles. In anticipation of the implementation of the Malta Convention a number of relevant stipulations were removed from this law during the transition. However, the obligation to apply for a study permit for scientific research (Article 30) still applies.

24 Monumentenwet BES.

25 Wet Maritiem Beheer BES.

Policy and policy instruments

Bonaire Archaeological and Built Heritage Policy Plan

At the request of Bonaire's Spatial Planning Management built monuments and archaeology will be joined in the new policy document (Kraan & Gehlen, forthcoming), as they were in the 2007-2011 policy document (Dienst Ruimtelijke Ontwikkeling en Beheer Bonaire 2007). Besides, it is intended to look even further ahead in this document by partially integrating the intangible heritage.

Bonaire's built heritage has received more attention in recent years. Meanwhile, a noticeable percentage of the built heritage has been designated as protected monuments. Also, seventeen archaeological sites have been nominated as such. The intangible heritage is being documented by non-governmental organizations, but does not have a protected status to date. The government has adopted a Cultural Policy, the vision statement of which advocates strengthening the natural synergy between nature and culture. The first policy objective is the 'conservation, protection, development and promotion of cultural heritage' (Island Council Bonaire 2010).

Bonaire Cultural Heritage Map

NAAM is developing a cultural heritage map for Bonaire based on the location of archaeological sites, built heritage and intangible heritage. This combined heritage will ultimately lead to a map showing the areas of high cultural and historical value on the island. The color of these zones will indicate the type of heritage and required procedures. This map will be available for everyone and is especially meant to be used by the government and developers.

Heritage procedure

The heritage procedure followed on Bonaire is currently similar to that of Curaçao. It is expected that, based on the planned legislative changes and the archaeological and built heritage policy, at least built heritage will also be included in this procedure. The exact procedural stipulations will be known later this year.

Further integration of the material and intangible heritage in the near future

The above shows that Curaçao and Bonaire have adopted different standpoints for the integration of the islands' heritage management. While at present Curaçao's attempts to primarily combine archaeological and intangible heritage as the interests of the built and archaeological heritage fields are too far apart, Bonaire takes the lead in directly combining archaeological and built heritage, also creating space for the intangible heritage.

Within NAAM's vision there exists the intention of eventually also combining these three fields with natural heritage as an essential determinant of residential location since the first inhabitants arrived on the islands. It should be clear that an integrated heritage policy is high on the agenda, including a comprehensive procedure for its authorization and execution.

Combining the archaeological and intangible heritage

The development of a culture-historical map for Bonaire has provided the inspiration to seek for funding to include also the intangible heritage on this map and on that of Curaçao. Obviously, the story of the past is not limited to material remains and is incomplete without the intangible heritage. Neither aspect can tell the whole story on its own. By at least indicating the location-based intangible heritage on the policy maps of Bonaire and Curaçao, NAAM strives to keep the intangible heritage on the forefront in spatial development along with tangible heritage such as the archaeological and built heritage monuments.

Moving forward

In principle most regulations are reactive attempts at creating proactive measures. These measures are supposed to prevent current problems from spilling over into the future, or to create new conditions considered more desirable. International treaties, as the most prominent sources of public international law (Lowe 2007:64), also have this tendency. The 1969 Vienna Convention on the Law of Treaties itself is a late codification of the regulatory and collaborative intentions of nation states. The sequential development of different UNESCO treaties, conventions and programs might have particular relevance for Small Island Developing States (SIDS) like the islands of the former Netherlands Antilles, the so-called CMBES islands. This sequence has been followed by the Dutch Antillean and Aruban governments in the past and still influences conservation policy in the CMBES islands. At present heritage policy in Curaçao, for instance, is still strongly influenced by developments which took place in the 1980s and by those of the first years of the 21st century. This is evident especially in large investments in urban renewal, the placing of Willemstad on the World Heritage List and, to a lesser extent, by initiatives in the field of archeological policy. In this context, intangible and certain other cultural heritage become invisible in the policy-making fields. When they do get discussed, explicit action for their protection remains difficult because anthropological notions of intangible heritage are both new and unclear to many people in the field. This notwithstanding concrete work in the field of cultural heritage in the 1980s, including research (oral history, participant observation, archaeological research etc. by NAAM, Kas di Kultura in Curaçao, FUHIKUBO²⁶ and BONAI²⁷ in Bonaire, and others on both islands, including several individual researchers), collections management (acquisition, registration, description, preservation, and exhibition of objects), and several initiatives of heritage documentation and promotion.

This state of affairs is influenced by several facts and situations. First, there is a de facto hierarchy within the various categories of cultural heritage, which reflects international conventions. Attention is paid differentially to architectural, archaeological, intangible and ecological heritage. Also, at the moment built heritage is better integrated into the economic policies of both Curaçao and

26 Fundashon Históricu Kultural Boneriano.

27 Bonaire Archaeological Institute.

Bonaire, using spatial planning, land use planning, and paying attention to the financial market through investments in infrastructure. Because of this, the field has also been better populated with professional manpower, gets more investments and has a longer history of attention in the educational system and in planning circles. Buildings are also visible as above-ground cultural artifacts that are relatively well publicized and present through restorations, tourist marketing and documentaries. There are also deeper emotional ties with buildings as private property and as emotional anchors of the family, neighborhood or personal history.

Maybe because of archaeology's disciplinary ties to the humanities, the scientific methods it uses and its coverage by earlier treaties, it is seen by most professionals in the field of conservation as the next organizable area of conservation. It is also embedded in a discourse about tangible artifacts, which is recognizable for most conservation professionals, even though these artifacts are mostly of a fragmented nature. Identity politics around built heritage is tied to private property and economic planning while archaeological heritage is promoted through research and museums. In a way these discourses hide identity politics as compared to intangible heritage, which is seen as more up front. With intangible heritage identity politics is in the foreground and is experienced primarily by the carriers of culture, rather than being defined in the first place by professionals. For all these reasons little translation of international treaties has occurred into the policies and programs relating to intangible heritage, notwithstanding the creation of bodies like the Archaeological and Anthropological Institute of the Netherlands Antilles (AAINA), now NAAM, and the Instituto Lingwístiko Antiano, the Antillean Linguistics Institute (ILA) in the late 20th century.

There are regional precedents for integrated legislation and policy instruments for cultural conservation and promotion. Two different models include the Dominican Republic's 1968 *Ley no.318 sobre el Patrimonio Cultural de la Nación* (Law No. 318 of June 14, 1968 on the National Cultural Heritage of the Nation) and Venezuela's 1993 *Ley de Protección y Defensa del Patrimonio Cultural - Ley 17* (Law on the Protection and Defense of the Cultural Heritage - Law 17).

Law 318 of the Dominican Republic mentions four broad areas of coverage: monumental heritage, artistic heritage, documentary heritage, and folkloric heritage. Venezuela's more recent Law 17 specifies no less than 14 different areas of coverage. It is useful to see that the Dominican law predates the major conventions that currently cover the area of conservation. On the other hand, Venezuela's law follows most of these developments in international agreements on heritage conservation. As a result, sequential adoption of treaties and their corresponding processes and procedures in Curaçao and Bonaire need not remain a limiting factor for promoting a more integral approach to heritage management. There are examples of how this was structured before the current treaties were concluded and without the benefit of their existence. They are also examples of how the sequential adoption does not have to be a constraint.

Nature Management

BES have nature legislation that was approved in December 2011. Several aspects of this *Wet volkshuisvesting, ruimtelijke ordening en milieubeheer BES* (BES Law on Housing, Spatial Planning and the Environment) were approved in December 2011 (*Staatsblad* 2012: 27). Certain aspects went into effect on July 1, 2012 (*Staatsblad* 2012: 232). Other articles still await implementation legislation. Currently operative articles that are relevant include those that cover: the area of waste, waste water and related waste disposal and sewage charges (Articles 4.6 to 4.8, 4.25, 4.26, and 11.17 of the Act), the establishment of an environmental policy and program (Chapter 1) and the prevention and reduction of environmental damage and the resulting associated cost recovery (Articles 8.3 and 8.4 of the Act). Of particular importance for conservation and heritage management are the remaining articles on permits, subsoil regulations and environmental assessments and building permits. Article 2.10 specifically prescribes that building permits are prone to be refused if the intended building is in conflict with a development plan referred to in Article 7 of the BES Law Principles Spatial Development Planning (Article 2.10b) or if a building permit is required by the BES Monuments Law, but was not granted.

Although Curaçao's *Hinderverordening* (1994) also makes provisions for synchronization with legislation on spatial planning and housing, and mentions the possibility for the government to require environmental assessments for projects that affect the environment, these are not specifically tied to monument legislation and heritage management. Monuments and heritage protection are only mentioned (Articles 31 and 32) as possible reasons for the optional requirement of an environmental assessment. A clause on subsoil protection would also make a connection between the natural and human-made resources. All this piecemeal improvement would be fairly limited, however, if it is not placed in a wider policy framework. The adaptation of legislation should be driven by a broader view of social welfare. Otherwise the changes will not take into account issues that are already quite visible. One instrument that provides such a framework is UNESCO's SIDS program. SIDS are seen as special cases of sustainable development due to some common issues. Besides identifying local issues that have commonalities among all SIDS, the international SIDS network also shares best practices, offers expertise and ways of co-operating internationally (see United Nations 2005). This adds a useful alternative perspective to the usually inward focus on local legislation and policy.

In practical terms there are also other regional and international tools that can help toward integrating the different heritage management areas. One example is UNESCO's Caribbean Capacity Building Programme (CCBP), which trains experts on the management of cultural heritage which always has both nature and built environment components. While it is primarily focused on immovable cultural heritage conservation and management, it also deals with other aspects of heritage management.

In the end Curaçao and Bonaire would probably benefit most from a thorough and critical look at current legislation and its improvement within a framework that addresses larger issues of social welfare and development with their own resources combined with international and regional aid and expertise.

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Heritage Management and the public sphere

Doing archaeology on Saba

Ryan Espersen

The field of archaeology, and by extension the Cultural Resource Management (CRM) industry, is dependent upon public interest to justify their existence. For CRM in particular, this involves maintaining good working relations upon multiple levels involving governments, businesses, academia, and the general public. In order to effectively operate, CRM firms must understand the social contexts in which CRM is taking place, how the results of their fieldwork will be interpreted in the present by the stakeholder groups involved, and in the future after the results enter the public domain. The island of Saba, Dutch Caribbean, presents a unique combination of legal, logistical and social peculiarities that must be addressed in this regard. This paper represents the observations of the author after two years of living on Saba, both as an archaeological field researcher (2011-2013), and a Geography, History, and Social Studies teacher at the Saba Comprehensive School (2011-2012). While this paper deals exclusively with Saba, many social and legal parallels pertinent to the CRM industry described herein can be drawn to other Caribbean islands.

Saba is a small and rugged island, just 13 km² and 890 m in elevation, situated at approximately 17.38° N, and 63.14° W in the eastern Caribbean. It is an active volcano (Roobol & Smith 2004), the northernmost in the volcanic inner arc of the Lesser Antilles. It has a population of about 1,500 people, with approximately an additional 400 medical students who attend the Saba School of Medicine. There are four main villages scattered across the island, connected by a steep, winding road: (1) The Bottom, which serves as the administrative center and is situated in the southwest; (2) St John's, located in the south; (3) Windwardside, the tourism hub, located in the southeast; and (4) the village of Hell's Gate, located in the northeast. On average, 1,041 mm of rain falls on the island each year (Nielson 2007:21), although actual amounts vary considerably across the island depending on elevation and exposure to trade winds.

Archaic Age Amerindians seasonally occupied the area of Plum Piece on Saba around 3300 BC (Hofman & Hoogland 2003). Ceramic Age Amerindian peoples settled the island between AD 400 and 1400, with the last continuous Amerindian occupation period by Chican-Ostionoid people between 1200 and 1500 (Hofman & Hoogland 2003; Hoogland 1996). Saba was settled by the Dutch in 1640, who found no permanent occupation by Amerindian peoples. However, there is evidence that the island hosted English, Irish, French, and Scottish refugees from the Spanish siege of St. Kitts in 1629, who were present when the Dutch arrived (Espersen 2009; Johnson 1979). Early industries up to the late-eighteenth century included fishing, small-scale agricultural export, shoemaking, and the production of sugar, coffee, and indigo. Four sugar plantations were in operation on Saba during the eighteenth century, the largest in The Bottom, the second largest in Spring Bay at approximately seven hectares, a third at Flat Point, and a fourth at Spring Bay Flat. The oldest known sugar plantation, at Spring Bay, dates to the mid-to-late-seventeenth century. Correspondingly, the first enslaved Africans likely arrived on Saba during this time.

English is the mother tongue on Saba, due to a series of events stemming from the seventeenth century. As early as 1659, Sabans requested a clergyman from St. Eustatius who spoke English (Hartog 1975:19). In 1665, Edward Morgan, the uncle of the better known Henry Morgan, captured Saba in the name of England. He deported seventy Dutch residents to St. Maarten (St. Martin), and their enslaved Africans, numbering 102, were shipped off to Jamaica to be sold. The remaining population of the island consisted of 29 English, 26 Irish, 9 Scots and French, 2 free Indians, and 15 Dutch that swore oaths of allegiance to the English crown. After Saba was returned to the Dutch in 1772, most of the families that were deported to St. Maarten did not return to Saba (Hartog 1975:23). Saba saw little immigration until the late twentieth century, and given the *laissez-faire* attitude of the Dutch West Indian Company (WIC) and later the colonial authorities towards Saba, English took root on the island and remains the mother tongue.

A devastating hurricane on 31 August 1772 destroyed most houses and plantations on Saba (*Jackson's Oxford Journal*, 21 November 1772), and was followed by the "Great Hurricane" of 1780, eight years later. As a result there is no standing colonial-era architecture on Saba that predates this period (Brugman 1995). The Spring Bay Flat Plantation ceased operations by around 1810, followed shortly thereafter by the plantation in The Bottom.

After 1780, poverty began to increase on Saba. The costs of rebuilding homes, coupled with the destruction of small-scale plantations due to the two hurricanes resulted in an increasing shift in the island economy from food exports to remittances earned wage labour abroad, often as captains and deckhands. Remittances were unpredictable and infrequent. The shift to wage labour would have resulted in redundancies in enslaved African labour, and increasing expenses to support them. Manumitting an enslaved African was also an expense of 20 florins. As a result, among poor owners of enslaved Africans unable to afford the manumission tax, this would have fostered a change in the relationship between owner and enslaved, with the relationship becoming subsistence-based rather than profit-based. This nurtured the common notion among present-day residents that

owners and enslaved Africans worked side-by-side. All enslaved Africans in the Dutch Antilles were emancipated on 1 July, 1863.

Throughout Saba's history, and into the present, the island has been regarded as something of a colonial backwater. Saba was neither a profit nor an expense to the WIC, and due to its small size and population received little attention, if any, from the Company (Hartog 1975:35). In fact, Saba's irrelevance to colonial authorities was such that none of the positions of governance on the island, including that of *Gezaghebber* (Lieutenant Governor), received any official salary until 1870. Under the Netherlands Antilles, the general sentiment of being ignored persisted (Johnson 1979; W. Johnson, pers. commun. 2008-2013). This long precedent nurtured a sense of self-reliance and autonomy on the island, and mild suspicions of authorities and researchers who have begun to show 'sudden' interest in the island. On 10 October 2010 (10/10/10), following a referendum among the former five islands comprising the Netherlands Antilles, Saba, St. Eustatius, and Bonaire (the BES islands) became 'public entities' of the Kingdom of The Netherlands, and are governed as special municipalities of the European part of the country. St. Maarten and Curaçao became independent countries within the Kingdom, while Aruba maintained its status quo in the same vein as the former two islands.

There is now a tangible presence of the (European) Netherlands on Saba. As a foreign researcher or CRM worker, image, tact, and approach are important when working on Saba, as a means to show and receive respect. A general numbness and fatigue has settled across the island with regard to visiting ministers, politicians, and researchers. This is in part due to their disproportionate numbers relative to the island's population, perceived arrogance, and actual results that their work, presence or research on the island will have on Sabans themselves, relative to what is claimed beforehand.

Since 10/10/10, Saba has seen a significant increase in Dutch politicians, ministers, and mainland government workers sent to the island on tours and fact-finding trips, leaving the island feeling 'swamped' (*The Daily Herald*, 24 August 2012). However, it has been the case more often than not that the trip is a 'working vacation', whereby the visiting minister or politician arranges a single meeting with relevant parties on Saba as a means to justify a more lengthy stay on the island, which includes a number of days spent on vacation, most often at luxury hotels. These trips are well known to Sabans, and have had a real impact on the ability of visiting ministers, along with their agendas, to be taken seriously. This public sentiment has extended to foreign contract workers and researchers, who question whether they are on Saba to work, or to enjoy a vacation under the guise of work. Given these precedents, it is important that the reasons and cost projections for CRM projects on Saba be made clear and justified to all stakeholders involved.

It should also be the duty of CRM staff and other relevant parties to arrive on Saba with foreknowledge of their area of work or expertise that is relative to the island itself, and not derived from blanket generalizations. Saba is exceptional in the Caribbean in several aspects, such as having a number of primarily African-descent residents relative to those of primarily European descent throughout the colonial period (Crane 1971:7; Espersen 2009:51), geographic isolation on a small island that fosters regionalism and five distinct English accents (Crane 1971), and having

the lowest montane cloud rainforest in the Caribbean (Kai Wulf, pers. commun. 2013). In one pointed example, a Dutch media commission arrived on the island for a weeklong ‘working vacation’, intending to meet an Island Commissioner concerning freedom of speech on television. The Commissioner quickly informed him at the outset of the meeting that Saba had no cable broadcasting outlet of its own, making the point of the minister’s weeklong trip moot (*The Daily Herald*, 24 August 2012).

While the BES islands are legally considered to be part of the Kingdom of The Netherlands, there remains the distinction between the European Netherlands and the Caribbean Netherlands. There are some legal differences between the two as well, which extends to the application of the Malta Convention and the UNESCO 2001 Convention on Underwater Cultural Heritage, both integral to the CRM industry in the (European) Netherlands. Though the (European) Netherlands is a signatory to both conventions, it is important to note that as of the publication of this volume, the governments of the BES islands have not implemented them into local law. As a result, for now, island archaeological organizations such as the Saba Archaeological Center (SABARC), the St. Eustatius Center for Archaeological Research (SECAR), the St. Maarten Archaeology Center (SIMARC), and the Bonaire Archaeological Institute (BONAI) work on their respective islands together with development companies within the ‘spirit’ of Malta and the UNESCO 2001 Convention on Underwater Cultural Heritage. In this environment, archaeologists cannot wield the law to prevent the destruction of archaeological sites by development, which increases the need to forge respectful and professional relationships with government officials, developers, and relevant private individuals.

A major obstacle for foreign CRM firms wishing to operate in the BES islands, especially Saba and St. Eustatius, are the operational and logistical costs of excavating on the islands coupled with the lower standard of living compared to the European Netherlands. A survey by the *Rijksdienst Caribisch Nederland* (Royal Civil Service for the Caribbean Netherlands) among residents of the BES islands found that satisfaction among them in the areas of education, health care, and policing had significantly increased after 10/10/10, while purchasing power had declined for a slight majority of residents (*Rijksdienst Caribisch Nederland* 2012). As of press time, the minimum hourly wage on Saba sits at US\$4.61 (*Rijksdienst Caribisch Nederland* 2013). In St. Eustatius, the minimum wage is US\$4.45 as of 1 January 2012, with minimum wage earners constituting approximately 50% of employed persons on the island (*Rijksdienst Caribisch Nederland* 2013). These pecuniary circumstances would make it inherently difficult for many private individuals on the island to afford the costs associated with hiring CRM firms to conduct research, surveys, and excavations on their properties. It makes the Malta Convention problematic to legally enforce if the costs of a CRM contract prove unaffordable to the general public. It may also foster reticence in reporting elements of cultural heritage which would be threatened by private development. Therefore, the costs associated with CRM contracts should be quoted within the financial means of private Saban landowners, and not be based upon European standards.

Most land on Saba is owned by private individuals, with the remainder owned by the Government of Public Entity Saba. Land ownership on Saba outside the fringes of Hell's Gate, Windwardside, St. John's, and The Bottom can be difficult to determine, as the borders were historically determined through landmarks, sometimes ambiguous and ephemeral, and through proximity to neighboring properties, rather than by lines delineated by survey instruments. Prior to 10/10/10, many plots of land were sold on Saba without being surveyed, though their sale records are maintained by the Public Works Office in The Bottom. The traditional methods of determining borders have fostered disputes over actual property boundaries. However, the high cost associated with official land surveys often prevents the legal resolution of these conflicts. As an example, two records from the Saba Property Registers, 1825-1870, illustrate the difficulty in determining borders in the present day:

5-9-1843

James B. Hassell, Cohone Johnson, sold to Miss Mary Ann Hassell, free black woman, a certain spot of land at the foot of the Mountain (f125).

Witnesses: Henry J. Hassell and John Leverock.

21-10-1869

Agreement between:

1) Mrs. Ann Beaks, widow

2) Edward J. Beaks, and

3) Moses Leverock

And Benjamin Arrowsmith of New York, for land: beginning at a point above the dwelling house of Mrs. Ann Beaks, from an orange tree above the cherry tree at the foot of the Hill called the Round Hill or Pepper Pot Hill, and running from thence as the road leads to the tether ground until it comes to the foot of the Guy and from thence dividing the same until it makes up the road leading from the level to St. John's as per description in settlement of the Estate of James + Mary Simmons dec'd made January 27th 1831 for sulphur exploration.

Witnesses: Abram Simmons, Algernon Hassell

The unsurveyed division of properties through generations of inheritance has also complicated land ownership, to the point of preventing any development over large swathes of Saba. The property comprising Spring Bay, which also includes Spring Bay Flat, was originally a sugar plantation that included two boiling complexes, a 'Great House', two cattle mills, sugar cane fields, and plots for subsistence agriculture. In 1869 it comprised about 809 hectares (*ibid*). After several generations of inheritances, there are an estimated 144 people at present with shares in the ownership of the undivided property scattered around the world (Will Johnson, pers. commun. 2013). As a consequence, this situation has spared Spring Bay Flat and Spring Bay from potential development. Rather than contacting all 144 owners of the property, permissions for archaeological excavation in Spring Bay and Spring Bay Flat are granted by the Government of Public Entity Saba. In other cases where ownership of a given area of land is clear, permission to excavate is granted by the owner.

Given the small size and small population of the island, any research or CRM done on the island will attract some degree of public attention. Along with public attention comes gossip, known locally as *melley*. For those accustomed to working in larger centers, the degree of scrutiny that one receives on the island from locals may come as a shock. It must be stressed that what one says, what one does, who one associates with, and where one is seen, all factor into local gossip which can then form the basis of character judgments. This can impact the success of a CRM project, especially where permissions to excavate on private land are concerned. Tact and approach are important on Saba, especially with regard to Dutch nationals, since there is a stigma on the island against the Dutch and other foreigners ‘coming to tell us what to do’ or ‘coming to change the island’, rather than working within the context of Saban culture.

The foundation of CRM and continued funding for academic archaeological research rests largely upon public interest. As such, the results of CRM and other research need to be promoted and made accessible to governments, academics, and especially the public. On Saba, there is growing antipathy among islanders against what have been dubbed ‘drive-by researchers’, whereby the academics arrive on the island with a stated research goal, stay for a short period of time, and leave without actually explaining afterwards to residents, the government, or island foundations how they could benefit from the results. With CRM this is a particularly important point, since clients will expect further justifications beyond following relevant laws for bearing the expenses of fieldwork and dealing with possible delays in development. This was exemplified by a CRM contract awarded to Jay B. Haviser, R. Grant Gilmore, and Joanna Gilmore to excavate a series of nineteenth century graves in Windwardside in early 2010 in response to the development of a small plaza over the site. The public was invited to witness the excavations as a means to stress the importance of CRM, and the results were disseminated by Haviser through a series of presentations both on Saba and at the 2013 International Association for Caribbean Archaeology meeting in San Juan, Puerto Rico (Haviser 2013). The public approach served to promote the project as a model and precedent for the Government of Public Entity Saba regarding the importance of excavating or preserving archaeological sites in response to development.

During the author’s residence on Saba, high school student members of SABARC participated in non-critical aspects of archaeological survey and excavation every Saturday morning throughout the school year, as a part of his PhD fieldwork. In the field, students were tasked with surface collecting, manual measurements of structures, first-layer excavation of units, and supervised sifting. Laboratory work was limited to supervised artifact washing and basic artifact sorting (Figure 5.1). A variety of sites were excavated: Spring Bay Flat, an eighteenth-century sugar and indigo plantation; Flat Point, another eighteenth-century sugar boiling house (Figure 5.2); Mary’s Point, a late-eighteenth- to early-twentieth-century village inhabited by poor Sabans locally considered to be the lowest class of ‘white’ residents (Espersen 2009); Middle Island, a nineteenth-century poor ‘white’/Free African descent village, a late-seventeenth- to early-nineteenth-century privy in The Bottom; Behind-the-Ridge, an eighteenth- to early-twentieth-century village;



Figure 5.1: Two SABARC students washing artifacts.



Figure 5.2: SABARC students measuring a cattle pen at the Flat Point sugar boiling house.

and a section of a colonial era pet cemetery in Windwardside. These efforts were recognized by King Willem-Alexander and Queen Máxima of the Kingdom of The Netherlands on 14 November, 2013, with the unveiling of the Saba Heritage Trail, an initiative of SABARC to promote the Amerindian and colonial period sites of Spring Bay Flat, Spring Bay, and Kelbey's Ridge along a hiking trail.

This direct, participatory approach towards promoting cultural and historical awareness is more effective than more impersonal public presentations and advertising on Saba, due to the small population and the importance placed upon interpersonal relationships by Sabans. The continual, direct participation of island youth in archaeological research creates a natural, persistent fount for the promotion of fieldwork results and the importance of preserving the archaeological record from destruction. This fosters the development of a reciprocal relationship with the local community, whereby Sabans become more aware of the importance of the island's material heritage, while researchers and CRM firms are alerted to potential new projects by historically and culturally engaged residents.

There are currently three organizations which hold service-level contracts with the Government of Public Entity Saba to provide CRM services on the island: SECAR, SIMARC and Leiden University. The service level agreement entails that all archaeological work done on Saba requires the oversight and participation of one of these three organizations. SABARC is expected to receive a service level agreement by 2014. As a mirror organization to SIMARC, SABARC functions both as a Saba-based archaeological center to provide CRM services on the island, and a youth-oriented program which allows high school students to participate in certain elements of archaeological fieldwork and laboratory work. It provides them experience in the theory and application of sciences, humanities, and social sciences in a field setting, while participating in the discovery of their own history, and fostering an awareness of the importance of preserving cultural heritage among Saba's next generation. The small size and population of the island makes a youth-centered approach to cultural and historical awareness an effective long-term means of ensuring the preservation and responsible recovery of Saba's cultural heritage.

Doing CRM on Saba presents an uncommon set of legal and social circumstances that need be taken into account. CRM firms must distinguish themselves socially and professionally from the many other groups of foreigners in industry, academia and politics, in order to not be stereotyped as another group using Saba primarily to further their own interests without giving anything back to the island. Being the negative subject of *melley* can be professionally damaging to CRM firms interested in future contracts on Saba, and as such it is recommended that they work with known community members prior to their arrival and during their contract on the island. Since the Malta Convention and the 2001 UNESCO Convention on Underwater Cultural Heritage are not enforced on Saba, developing good working relationships with government, developers and the island community within the context of Saban cultural norms is of prime importance. SABARC, SIMARC, and SECAR in particular are archaeological organizations rooted within their respective island communities, and their partnership with foreign CRM firms interested in Saban contracts can help ensure the acquisition and success of a contract.

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Skeletons in the closet

Future avenues for the curation of archaeological human skeletal remains in the Dutch Caribbean and the rest of the region

Hayley L. Mickleburgh

Human skeletal remains from archaeological contexts in the Dutch Caribbean and the rest of the region are curated in a variety of facilities such as museums and the premises of heritage organizations, history and archaeology interest groups or in some cases private collections. These curating facilities deal with various challenges regarding the care for human remains, but in many cases a lack of sufficient resources affects the conservation of the human remains that have been under long-term curation. This chapter discusses some of the ways in which storage conditions and documentation of human skeletal remains in the region may cost-effectively be improved. Legislation and guidelines pertaining to the treatment of archaeological human remains in other parts of the world provide a potential framework for the development of conservation strategies for human skeletal remains under (long-term) curation in both the Dutch Caribbean, where legislation and guidelines for Dutch archaeology have recently been introduced, and the Caribbean region as a whole. While conservation of human remains is in the interest of all stakeholders, this chapter emphasizes the strengthening of ties between visiting researchers and curators in order to effectively make use of the available expertise and maintain conservation with very few resources. A model for the post-recovery treatment of archaeological human remains based on museum guidelines recently developed in Europe and shared responsibility between visiting researchers and curators is proposed.

Introduction

With rapid developments in cultural heritage management worldwide, there is increased awareness of the presence of human remains in collections, and questions have been raised regarding their continued curation (Cassman *et al.* 2007). Human remains have enormous scientific value, which continues to grow as new methods and techniques are developed for their study, and at the same time they

have immense social, cultural, religious, ritual, and emotional value for various stakeholders, making the ethics of their scientific study and (long-term) curation complex (Alfonso & Powell 2007).

Human skeletal remains from archaeological contexts in the Caribbean are curated in a variety of contexts, including museums as well as the premises of heritage organizations, history and archaeology interest groups, or in some cases private collections. As is the case in many parts of the world there is no (single) guiding protocol for the curation and continued protection of these remains, although the curating facilities throughout the region often contend with similar issues regarding the care for their collections. This chapter outlines future avenues for the conservation of archaeological human skeletal remains in the Caribbean through: (1) examining legislation and guidelines for the treatment of archaeological human remains in the region and in other parts of the world, and (2) emphasizing collaboration between researchers and curating organizations such as museums, heritage organizations, history and archaeology interest groups, as well as private collectors.

Legislation and guidelines have been developed in some other parts of the world that take into account the wishes and opinions of all potential stakeholders in the treatment of archaeological human remains, regarding optimal physical conditions for preservation and ethical concerns. Several examples are drawn upon in this chapter, demonstrating the degree of variation in laws and guidelines worldwide, and highlighting some that could in the future serve as models for the development of similar laws or guidelines in the Caribbean. At present they may be used to develop conservation strategies for skeletal collections.

Each individual curating organization in the region deals with its own challenges in the continued care for collections, but regarding human remains there are some shared experiences and potentially shared solutions that could contribute to the sustained protection of human remains. This chapter discusses some of the ways in which researchers and curating institutions may improve storage conditions and documentation of human skeletal remains are discussed, emphasizing the proactive role of researchers in their conservation. Lack of sufficient resources means that curating institutions in the Caribbean (and elsewhere in the world) often cannot afford to maintain conservation of human remains, which frequently form just a small part of their entire collection. It is posited here that by strengthening the relationship between curating institutions in the region and researchers wishing to study collections of human skeletal remains, and through shared responsibility for the conservation of the remains, their continued management and (scientific) value can be improved significantly and cost-effectively.

Although this volume deals with the Dutch Caribbean, this chapter includes issues of curation of human remains in other parts of the Caribbean because: (1) although geopolitically diverse due to its complex colonial history, the Caribbean region represents a socially and culturally integrated area, both in the past and at present; the archaeological and historical Caribbean heritage (including archaeological human skeletal remains) is similarly integrated and intertwined, and the management of collections of human skeletal remains stands to benefit from an approach that avoids separation according to current geopolitical divisions and

colonial histories, (2) although Dutch archaeology legislation and guidelines have been introduced variably to the Dutch Caribbean since 2010 (see also chapter 4 of this volume; van der Linde 2012), similar to other parts of the Caribbean there remains a lack of legislation and guidelines/best practices regarding the curation and conservation of archaeological human remains, because these are still meagre or as yet lacking in Dutch archaeology and museum practice (see discussion below), and (3) the physical environment of archaeological sites in the Dutch Caribbean as well as the histories of establishment and curation of collections in the region differ from those in Dutch archaeology and heritage management, and therefore call for an assessment of conservation needs that is tailored to local requirements.

This chapter is drawn from experience with the bioarchaeological study of collections in the Caribbean, and therefore deals predominantly with their scientific value. Although legal and ethical issues concerning the (long-term) curation and scientific study of human skeletal remains form an essential and integral part of any conservation strategy for collections, these are not the main focus here. The reader is referred to previous works (e.g., Cassman *et al.* 2007; Turner 2005) for more information on these issues.

Legislation and guidelines

Similar to the situation in the broader field of cultural heritage management, legislation and guidelines for the treatment of archaeological human (skeletal) remains vary considerably worldwide, both in their precise constitution and actual enforcement (Hutt & Riddle 2007; Márquez-Grant and Fibiger 2011). Some international legislation indirectly covers the treatment of archaeological and ethnological human remains: UNESCO's Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property (1970), the Convention Concerning the Protection of the World Cultural and National Heritage (1972), and the UNIDROIT (the International Institute for the Unification of Private Law) Convention on Stolen or Illegally Exported Cultural Objects (1995). However, these conventions aim to protect cultural items in general from illicit trade, and are not aimed specifically at human remains or at the treatment of remains throughout the different stages of their recovery, analysis and documentation, and further curation or repatriation/reburial.

Next to these conventions, the only international agreement on the treatment of human remains between scientific researchers and indigenous communities is the Vermillion Accord on Human Remains (1989), created by the World Archaeological Congress (WAC). This agreement proclaims respect for human remains and local communities, and recognizes the scientific importance of human remains, but it doesn't provide guidelines for the precise treatment of remains throughout the process of recovery and curation. In practice, the recovery and scientific analysis of archaeological human remains are generally closely intertwined (Ubelaker 2011), but in existing national legislation and guidelines for best practices the stages of recovery of the remains, and their further analysis and curation (including storage and public display) tend to be regulated separately.

Legal status and recovery

The legal status of archaeological human remains varies widely across the globe (Márquez-Grant and Fibiger 2011). As a result, the manner in which collections of such remains are established and their long-term management strategies can also vary considerably. Often archaeological remains are not covered in general legislation on the treatment of human remains. For example, the Human Tissue Act (HTA 2004), which regulates the removal, storage and use of human tissue for among other things education, research, and public display in the United Kingdom, does not apply to remains of individuals who died over 100 years ago, or existing holdings of over 100 years old (Sections 1 and 9), excluding the majority of archaeological remains.

The recovery or excavation of archaeological human remains is often regulated by legislation concerning cultural heritage and patrimony. Such legislation, if specifically stated to cover archaeological human remains, tends to emphasize their scientific value and delineates who may excavate and/or transport such remains, as well as making statements concerning their legal status and ethical treatment (Márquez-Grant & Fibiger 2011). Post-recovery treatment largely falls under the auspices of guidelines for best practices for e.g. museum associations (see below).

In the United States, for example, the Archaeological Resources Protection Act (ARPA) protects archaeological resources (including graves and human skeletal materials) on public and Native American Indian land from being unlawfully excavated, removed, damaged, bought or sold, exchanged, or transported. In Germany, archaeological human remains are protected by the *Denkmalgesetzsatz*, legislation which protects all archaeological finds from being tampered with, damaged or destroyed, and custody of the remains is given to the State Offices for Historical Monuments (Orschiedt *et al.* 2011).

In some cases, the recovery of archaeological human remains is regulated through laws which were not specifically designed to cover archaeological cases. For example, in the United Kingdom, archaeological human remains are protected through a number of acts and laws, the foremost of which is the Burial Act 1857, which was designed to stop grave robbing that was prolific in the 19th century as medical schools were in need of bodies for dissection, and which states that ‘it shall not be lawful to remove any body, or the remains of any body, which may have been interred in any place of burial, without licence’. Furthermore, there is the Common Law, which states that it is an offence to disinter a body without lawful authority, ecclesiastical law, which defines whether human remains may be excavated and regulates their post-excavation treatment on land under Church of England jurisdiction, and the Disused Burial Grounds (Amendment) Act 1981 and the Pastoral Measure 1983, which protect human remains from land development.

Legislation regarding the legal status and treatment of human remains that is legally applicable to archaeological remains is not always present. In the (European) Netherlands, human remains are protected by the *Wet op de Lijkbezorging* 1991, which regulates the manner of lawful disposal of bodies and parts of bodies, and articles 148-151 of the *Wetboek van Strafrecht*, which state that the excavation of or damage to a grave as well as the transport of remains from an unlawfully excavated

grave are unlawful and punishable. Archaeological burials are not protected by these laws, however, since archaeological graves are generally not buried in a cemetery as it is legally defined in these laws (Bok 2007). Since legislation regulating the treatment of archaeological finds, *i.e.* the *Monumentenwet* 1988 and the *Wet op de Archeologische Monumentenzorg* 2007, defines archaeological materials as any ‘fabricated object that is important for its beauty, scientific value, or culture-historical value’, and human remains cannot be argued to have been fabricated, human remains from archaeological contexts do not technically constitute archaeological finds. As such, their legal status is not specifically defined and their treatment is not regulated, but in practice they are treated as archaeological finds, dealt with by trained researchers and curated in museums or research facilities (Bok 2007; Smits 2011). In France, in legislation covering archaeological finds human remains are not explicitly mentioned, and as such their legal status is not separately defined. However, in practice archaeological human remains are considered to comprise archaeological finds, and therefore they are treated as other archaeological materials in excavation and storage (Michel & Charlier 2011).

In various parts of the Caribbean, such as The Bahamas (see also Pateman 2011), Barbados (see also Farmer 2011), Grenada, St. Vincent and the Grenadines (see also Callaghan 2011; Lewis 2011), and Trinidad and Tobago (see also Reid & Lewis 2011), archaeological human remains are not specified in legislation protecting the cultural heritage. In the British Virgin Islands, no legal framework is in place regarding the excavation of human remains (Harrison 2011).

In the Dominican Republic, ancient human remains are specifically defined in heritage protection legislation. Any archaeological human remains pertaining to the period before the ‘discovery’ (*i.e.*, before the first contact between the Amerindians of Hispaniola and the Europeans) are considered archaeological remains of national and cultural significance and constitute property of the state under *Ley 564 para la protección y conservación de los objetos Etnológicos y Arqueológicos Nacionales* (1973). Archaeological remains (including human remains) that are protected under this law must be registered with or transferred to the custody of the *Museo del Hombre Dominicano*. Archaeological remains that are not considered to pertain to the period before first contact would fall under the jurisdiction of the *Dirección Nacional de Patrimonio Monumental* (Prieto Vicioso 2011), but human remains are not specified in the relevant legislation (*Ley 318 sobre el Patrimonio Cultural de la Nación*, 1968). If found on Catholic Church land or adjoining property, ancient human remains are presided over by the Church (Pauline Kulstad, pers. commun. 2014).

In the U.S. Virgin Islands, the Antiquities and Cultural Properties Act (1998) establishes that the State Historic Preservation Office is responsible for the comprehensive survey and identification as well as the maintaining of a listing of all archaeological remains and the relevant collections keeping such remains. The latter are stated to include cemeteries, unmarked human burial sites, and ossuaries.

Legislation for post-recovery treatment

Post-recovery treatment of archaeological human remains consists of inventorying, analysis, storage, conservation, display (e.g., in museums), and sometimes repatriation and reburial. Post-recovery treatment is generally considered separately from excavation procedures, and as such the legislation that deals with the excavation or other removal of archaeological human remains discussed above generally does not cover their precise treatment afterward. The new conditions to licenses obtained under the Burial Act of 1857, issued by the United Kingdom Ministry of Justice in 2008, are a clear exception. They state that archaeological human remains must be reburied within two years of their exhumation, with extensions granted only in special cases. This legislation, intended to cater to modern views on the treatment of human remains, repatriation and reburial, has led to considerable debate and resistance from the archaeological and broader scientific community, due to the very limited time for scientific study of human remains and the lack of possibility for re-analysis at a later stage (Parker Pearson *et al.* 2013).

In the United States, the Code of Federal Regulations, title 36, part 79 (Curation of Federally-Owned and Administered Archaeological Collections) establishes standards, procedures and guidelines for Federal agencies for the post-excavation management and preservation of historic and prehistoric remains (including human remains) recovered under the authority of the Antiquities Act, the Reservoir Salvage Act, Section 110 of the National Historic Preservation Act, and the Archaeological Resources Protection Act. These regulations cover, among other things, storage conditions, inventorying, and any associated documentation of such remains.

Significant legislation pertaining to the post-excavation treatment of (archaeological) human remains came about due to years of lobbying by indigenous rights groups; in the United States and Australia there exists Federal, Commonwealth and State legislation pertaining to the post-recovery treatment of archaeological human remains of specific ethnic and cultural affiliations. In the United States, the Native American Graves Protection and Repatriation Act (NAGPRA) protects indigenous human remains from trafficking, and requires all curating organizations that receive federal funding to transfer remains that can be culturally ascribed to a particular indigenous tribe for appropriate ethical and cultural treatment. The slightly earlier National Museum of the American Indian Act (NMAIA) (Public Law 101-185; 1989) similarly requires the Smithsonian Institution in Washington D.C. to transfer the remains that could be culturally ascribed to a particular contemporary indigenous tribe. There are no repatriation laws at the Federal level for non-indigenous remains, although there are various State level laws in place, some of which also prohibit traffic of remains (Hutt & Riddle 2007; Ubelaker 2011).

In Australia, the Aboriginal and Torres Strait Islander Heritage Protection Act (1984) and various State level acts such as the Aboriginal Heritage Act (Victoria; 2006) and the Aboriginal Cultural Heritage Act (Queensland; 2003) decree that ownership of Aboriginal human remains is passed to the Aboriginal people who

have a traditional or familial link to the remains, allowing the Aboriginal people to request transfer of the remains into their custody.

Such legislation as described above has greatly impacted the way society at large and researchers in particular think about the treatment of human remains, despite the fact that many feel that e.g. NAGPRA has failed to achieve many of its objectives and has unintentionally complicated certain matters (Jacobs 2009; Murphy 2001).

Aside from the cases described above, there is a paucity of legislation that regulates the precise post-recovery treatment of human remains across the globe. The same is true for the Caribbean, although changing attitudes toward the treatment of the dead, and debates on repatriation and reburial among the scientific community and the general public may spur the development of such legislation in the near future.

Guidelines for post-recovery treatment

Alongside what is defined by law, recently some guidelines have been created for the post-recovery treatment of archaeological human remains, and since the chief premise for holding human remains under long-term curation in many museums and other institutes worldwide is their continued scientific significance, the bulk of these has been developed within the scientific or museum professional community. The International Council of Museums (ICOM) Code of Ethics for Museums (2004) is internationally recognized and subscribed to, and sets minimum standards for museums with regards to the ethical treatment of all materials in their custody, including human remains. However, in some countries more specific guidelines – concerning among other things storage conditions and conservation practices – have been created for the post-recovery treatment of archaeological human remains such as the Guidance for the Care of Human Remains in Museums (DCMS 2005; England, Wales and Northern Ireland), the Guidance for the Care of Human Remains in Scottish Museum Collections (MGS 2011; Scotland), and the Recommendations for the Care of Human Remains in Museums and Collections (GMA 2013; Germany). These guidelines state that curation facilities (often museums with research departments and experts in osteology) are responsible for documenting and inventorying the materials in their care, and making a full osteological report which includes per individual which parts of the skeleton are present, the preservation condition, contextual information (e.g., site location, dating, spatial distribution of human remains within the site, associated archaeological materials), and evidence for pathological conditions. This information will then be kept in a materials catalogue, and where deemed necessary will be made accessible to interested parties of the general public and researchers wishing to study the materials.

Of interest for the Dutch Caribbean, is the policy of the Netherlands Museums Association (NMA) regarding the treatment of human remains in their collections. The NMA adheres to the ICOM Code of Ethics for Museums (2004) regarding the ethical treatment and status of human remains in their collections, and in addition, with respect to more specific aspects of inter alia the display of human

remains in exhibitions, the NMA adheres to the advice statement of the Ethical Code for Museums committee (2007). Furthermore, the *Stichting Volkenkundige Collectie Nederland* (SVCN), an association for the eight ethnology museums in the (European) Netherlands, has produced a Code of Conduct specifically for the treatment of human remains in ethnological museums, which pertains for instance to their display and the minimum standards required for inventory (SVCN 2012). However, regarding the physical preservation of the remains and the quality of storage conditions, packaging, and accompanying documentation, there are currently no Dutch guidelines available for museums or other curating facilities, although the Netherlands Museum Association makes mention of the recommendations set out by the German Museums Association (2013) (*Museumbericht* 6 June).

Future directions

Archaeological human remains cannot be considered as simply a type of material. They are socially, culturally and emotionally highly laden, and the way they are treated is socially and politically significant. The recognition of archaeological human remains as a separate and unique category of archaeological finds in national and international legislation is an important step toward developing a strategy for their longer term treatment that incorporates the wishes of all stakeholders. As we have seen above, the status of archaeological human remains in legislation across the globe is highly varied, but recent debate on how to deal with them has already led to critical examination of the manner in which they are treated throughout the different stages of recovery and curation (Cassman *et al.* 2007), and may lead to re-evaluation of legislation in the future.

The guidelines set out by the DCMS, MGS, and GMA represent an important development toward incorporating the wishes and recommendations of various stakeholders, including the general public, potential descendants, and scientific researchers and museum professionals. These guidelines reflect rigorous research into the opinions of all stakeholders, and they devote great attention to optimal conditions for preservation of remains from deterioration. Their specific recommendations for the physical preservation of the remains, storage conditions, packaging, and accompanying documentation can therefore be considered best practices for the post-recovery preservation of human remains, and may serve as a model for the development of similar guidelines elsewhere in the world.

Continued scientific importance

As discussed above, legislation or guidelines specifically regarding the treatment of archaeological human remains are lacking or inadequately enforced in large parts of the Caribbean (see also Harrison 2011; Llorens-Liboy & Núñez 2011), reflecting similar issues in general cultural heritage management in the region (Siegel & Righter 2011). In practice this can mean that human remains are not excavated or studied by individuals with training in osteology (Llorens-Liboy & Núñez 2011). The same is the case with skeletal remains that have been under long-term curation, since these may predate (enforcement of) legislation or development of local education programs in archaeology, osteology and bioarchaeology (Llorens-

Liboy & Núñez 2011). As such, older collections of archaeological human skeletal remains stand to benefit from new analyses by trained bioarchaeologists. Scientific interpretations cannot be considered ‘final’ in the sense that once analysed, archaeological materials are depleted of scientific worth. On the contrary, re-analysis and re-interpretation of data are as much part of science as the initial research (Nilsson Stutz 2008). Theoretical developments in the field of bioarchaeology in the last couple of decades, and the move away from simple descriptive osteology to more holistic bioarchaeological approaches means that basic osteological methods have changed and been refined, warranting new investigations of long-term curated remains. Furthermore, the continued development of bioarchaeological and archaeometric techniques means that human skeletons are increasingly important sources of information on past peoples’ lifeways and deathways. The rapid development of techniques means that many analyses which in the past were (highly) destructive are now, or in the very near future will be, (practically) non-destructive to the material. This opens up a broad range of research possibilities and serves to increase the scientific value of these remains. Currently, materials excavated decades ago are receiving renewed interest from researchers from the Caribbean and elsewhere, hoping to answer new research questions with new techniques or non-destructive analyses (Crespo *et al.* 2013).

This emphasizes in particular the significant scientific value of skeletal remains that have been under long-term curation in the Caribbean, including those that have previously been studied. The scientific importance of the remains generally does not diminish, however long-term storage leaves skeletal materials vulnerable to deterioration. But, needless to say, human skeletal remains also have considerable non-scientific value. Globally, increasing concerns from indigenous groups, the scientific community and society at large about the ethical treatment of human remains have highlighted the need to justify their long-term curation. Therefore, if collections of human remains are to stay in curating facilities, plans need to be drafted regarding their ethical treatment, study and conservation through consultation with all potential stakeholders.

Shared responsibility

As described above, guidelines for the treatment of human (skeletal) remains adhered to by museums in for example England, Wales, Northern Ireland, Scotland, and Germany, state that museums are responsible for documenting and inventorying the materials in their care, and making scientific reports, which requires specific scientific (osteological) training. However, the presence of a research department, or experts with osteological training, is dependent on the aims of the organization holding the materials (and their reasons for doing so) and on available funding. Many curating facilities and organizations across the Caribbean lack the funding for such actions, or were not established with the aim to actively pursue scientific research of remains. Legislation or guidelines regarding the specific post-recovery treatment of archaeological human remains is mostly lacking in the Caribbean countries, and other legislation pertaining to the cultural heritage is often poorly enforced or problematic for other reasons (Siegel & Righter 2011).

However, the long-term care for human skeletal remains is also the responsibility of researchers who wish to study such materials. The scientific community of (bio)archaeologists is committed to the long-term conservation of human skeletal remains from archaeological contexts, a fact that is reflected in the codes of ethics and conduct statements of various scientific associations, such as those outlined by the Society for American Archaeology, The American Association of Physical Anthropologists, The World Archaeological Congress, The European Association of Archaeologists, and the British Association for Biological Anthropology and Osteoarchaeology. For example, the Bylaws of the Society for American Archaeology state that it is the ethical responsibility of archaeologists ‘to advocate and to aid in the conservation of archaeological data’, which includes the mortuary record and human remains (SAA 2012). Similarly, the American Association of Physical Anthropology states in its Code of Ethics that one of the principles of their organization is to ‘work for the long-term conservation of the archaeological, fossil, and historical records’ (AAPA 2003). The British Association for Biological Anthropology and Osteoarchaeology also emphasizes the important role of researchers in conservation of remains, noting that ‘osteoarchaeologists should work toward the long-term conservation of the osteoarchaeological record’ (BBAO 2007).

Bioarchaeologists can contribute significantly to the conservation of human remains by reporting on preservation conditions and providing curating organizations with the basic osteological data from their analyses. Both of these are part of their routine studies and require only minor adaptations for curation purposes. If researchers and curators collaborate to protect and conserve human skeletal remains, the condition of remains can be improved and maintained even when very few resources (funding) are available by making optimal use of researchers’ expertise without increasing their work load significantly. In applying this concept of ‘shared responsibility’, for example, researchers may perform condition assessments and create inventories (including basic osteological data) as required by curators, and even re-package remains when original packaging materials are unsuitable or have deteriorated. The shared responsibility of researchers and curators toward archaeological human skeletal remains may, through collaboration, be extended to the active engagement of other stakeholders, drafting plans for the future curation or other treatment of the remains, drafting codes of ethics and practices, and public outreach and education programmes. In sum, shared responsibility is a model for the collaborative improvement of the post-recovery treatment of human remains from archaeological contexts, but importantly the practical implementation of the shared responsibility concept does not afford researchers, curators or any other party the right to access or use collections or data beyond existing collaborative agreements.

Conservation strategy

The guidelines for the treatment of human (skeletal) remains adhered to by museums in for example England, Wales, Northern Ireland, Scotland, and Germany present highly detailed best practices for the conditions of curation

of human remains. Here, key aspects of care for human remains outlined in these guidelines (inventorying and documentation, storage conditions and packaging materials, condition assessment) are discussed in the light of potential implementation in the Caribbean region. Collections in the Caribbean region are subject to conditions which are not applicable to many other parts of the world, in particular the countries in which these guidelines were developed. The tropical to subtropical climate of the region, with high temperatures and humidity, as well as the abundance of pests, can form a threat to human skeletal remains and the storage facilities they are held in, and may warrant specific storage requirements and more frequent replacement of e.g. packaging materials. Together with limited resources, this means that practical use of these guidelines must be tailored to local needs and conditions.

As mentioned above, the concept of shared responsibility between researchers and curators may be extended to the involvement and engagement of other stakeholders, through for example public outreach and education programmes. The involvement of local communities and the broader public in the treatment of archaeological (and ethnological) human remains provides the opportunity to develop a sustainable conservation strategy, which incorporates the views of all stakeholders.

Below, a number of practical measures are suggested for post-recovery treatment of archaeological human remains in the Caribbean. These measures are drawn from: (1) the best practices described in the recent European guidelines, discussed above, (2) personal experience of the author as a researcher working with such collections in the region, and, most importantly, (3) from the concept of shared responsibility introduced above. This concept of shared responsibility resonates with recent developments in museology, which explore a variety of models for shared responsibility for the care of archaeological and ethnographical collections. Non-Western models of museums, for example, provide alternative perspectives on the treatment of archaeological and ethnographic collections, and recent developments emphasize the potential of alternative approaches which include traditional Western curatorial practices (Kreps 2006).

Inventory

Collections of archaeological human (skeletal) remains should be carefully inventoried and documented. The GMA recommends digitisation of inventory data for speedy access and to facilitate future work. A basic inventory system for human remains should include the number of individuals and an inventory per individual of remains that are present (visiting researchers with bioarchaeological expertise can be requested to assist), the assigned inventory numbers per individual, an assessment of the condition of preservation (see below), information on the nature and location of any related documentation or archival material, information on the context of acquisition of remains, information on the archaeological (*e.g.* site name and location, associated materials, dating) or ethnographical context, information

on any previous handling or restoration work on the remains, information on previous research activities and their results, including the location of samples taken and time frame for their return.

Handling and cleaning

Bone is porous, and therefore absorbs oils present on the skin. To prevent this, bone should only be handled with clean hands, or preferably gloves. Nitrile gloves are preferred, as they do not contain proteins (latex gloves contain proteins from the rubber tree), and are therefore suitable for handling materials which may at some point be sampled for ancient DNA or protein research. Gloves that are powdered on the inside should be avoided: the powder usually consists of corn starch which can contaminate samples of dental calculus that can be used for ancient starch grain research.

Poorly preserved materials should not be washed with water, and bones should never be immersed while cleaning. Soil left adhering to bone after excavation will dry and shrink, and can damage the bone in the process. Bone should never be stored wet or damp, as this can encourage the growth of moulds.

Condition assessment

According to guidelines set out by DCMS (2005), MGS (2011), and GMA (2013), museums should regularly check the condition of materials to identify if the integrity of the remains has deteriorated and whether storage conditions and packaging materials are still adequate. Standardised documentation is recommended for condition assessment. Bioarchaeological researchers will generally include an assessment of the condition of the materials in their study of the remains, as the condition of the remains impacts their analysis of the materials. Therefore, when expertise and funding for condition assessment is lacking, researchers with appropriate expertise, who wish to study the materials, may be called upon to contribute by reporting on the condition of the remains and packaging materials and providing advice on potential improvements, as well as re-packing when packaging needs replacing.

Basic reporting should include an assessment of bone condition and integrity, an inventory of remains, evidence for the presence of pests, deterioration of packaging or labels, individual integrity (*i.e.* bones packaged together as a complete skeletal individual).

Storage, packaging and labelling

Storage areas, packaging materials and containers should be kept clean and regularly checked for damage, leakage, or the presence of pests. The DCMS, GMS and GMA recommend that large collections of human remains be stored in a dedicated storage area, which both allows for management of storage conditions specifically suited to human remains, and allows for monitoring of access to the remains for ethical reasons (*i.e.* leaving remains as undisturbed as possible). When the allocation of a separate storage room is not possible, or collections are of smaller

size, it is recommended that a specific area of the storage facility is designated for human remains. Integrity of individuals is emphasized by DCMS, MGS, and GMA. Remains of individuals should be cleaned and stored individually, preferably in individual storage containers.

Skeletal remains are best stored clean, in a cool and dry place, and away from sunlight.²⁸ The DCMS (2005) recommends optimal temperatures and humidity levels for the storage of human skeletal remains. High or low humidity of the storage environment is advised against by DCMS (preferably between 35-70%, not above 85%), but at the very least attempts should be made to control humidity levels and avoid rapid fluctuations. When it is not possible to adhere to these temperatures, minimal requirements are that (rapid) temperature and humidity level fluctuations are avoided, since these can lead to deterioration of the bone.

Inert packaging materials are recommended since these do not contain chemicals that are harmful to the remains. Polyethylene self-sealing bags are recommended to pack bones, and bubble wrap and jiffy foam can be used for extra protection of bones in the container. Bones should never be packed if not completely dry. Wooden and cardboard containers are not recommended, since these can contain lignin, which in high levels can release an acid which destroys DNA and proteins, and thus leads to deterioration of human remains. Similarly, wrapping remains in newspapers exposes them to acids produced by deteriorating lignin. Acid and lignin free packaging materials and containers can be purchased, and some museums store human remains in good quality cardboard boxes (Museum of London 2009). However, wood and cardboard, as well as paper archives and cardboard binders can attract termites, which in the Caribbean can pose a threat to collections. Furthermore, rodents can gnaw through cardboard and sometimes wood, and will gnaw on bones to sharpen their teeth and for the minerals they contain. Rodents also leave droppings which are harmful to the health (Arriaza and Pfister 2007). Plastic containers can be used, as long as they are polypropylene (PP) or polyethylene (PE), and materials are completely dry before placing them inside, to avoid moulding. PP or PE boxes protect against insects, rodents, and to a certain extent water damage (*i.e.* leakages or flooding), and are relatively cheap.

DCMS and MGS suggest that labelling of packaging materials and marking of remains (with inventory numbers) should be done with waterproof ink according to standards set out by the United Kingdom Collections Trust SPECTRUM Advice (Collections Trust 2011). Similar to the requirements for packaging materials, labelling and marking should not introduce harmful chemicals to the remains.

Visiting researchers with expertise in the study of human remains tend to have expertise and experience in the handling, labelling and packaging of remains, and can be called upon to re-package or label any materials they encounter that require a packaging or labelling upgrade.

28 UV light is destructive to the proteins in bone, and bones exposed to it for long periods of time will become brittle and eventually disintegrate. UV light can also damage packaging and labels.

Public outreach

Of great importance to the future of the archaeological heritage is the involvement of all stakeholders in strategies for and implementation of its management. The wider debate on the holding of human remains in various curating organizations worldwide, means that the indefinite curation of remains has been questioned, and, secondly, that the general public and local and indigenous communities actively engage in policy development regarding their treatment.

Researchers can simply and effectively contribute to public outreach and education programmes of museums and other curating organizations by actively engaging with the public through presentations (*i.e.*, museum or school lectures) while visiting to study materials, and by preparing a report for the general public alongside the required scientific report. But engagement of all stakeholders in the management of the archaeological heritage requires their involvement in all the stages thereof, including the research, since exclusion at any stage defies the principles of the collaborative management of archaeological heritage. Therefore, methods should be sought to involve all stakeholders in the design and execution of research.

Discussion/conclusions

There are some very simple and effective ways to improve preservation of archaeological human remains in the Caribbean. Guidelines that have been implemented elsewhere in the world can be consulted by curating organizations, and adapted to local circumstances where necessary. Some suggestions have been made here, based on these guidelines, which may be relatively easily and inexpensively brought into practice throughout the region. An important tool suggested here, that can be used by curating organizations in the region, is the concept of shared responsibility. The advantage of this approach is that it can relatively cheaply make use of the available expertise on the treatment of human remains, and thus provides an option for improvement even when funds and expertise are very limited. But in the long-term curation of human remains (or any other materials) must not overly rely on any single stakeholder. Scientific expertise can provide a framework for the optimal conditions needed for the preservation of archaeological human remains, but the involvement and engagement of multiple stakeholders, in particular the general public, are essential to the future of the cultural heritage, including human remains.

The development of policies and guidelines for the (long-term) treatment of archaeological human remains in the Caribbean is also a step toward the development of legislation that recognizes human remains as a unique category of archaeological materials, which requires different treatment for both ethical reasons and due to its specific material properties. Currently, worldwide, there is a great variety in legislation pertaining to the treatment of archaeological human remains, while in the majority of cases the optimal conditions for storage and handling of these remains are the same (or similar). Nonetheless, ethical concerns and concepts of death vary across the globe, and legislation must reflect local customs and needs. Legislation such as NAGPRA, for example, was specifically

developed with the concerns and interests of Native American populations in the United States in mind, and is not necessarily an appropriate framework in other parts of the world (see also Jacobs 2009). The development of legislation pertaining to the treatment of archaeological human remains in the Caribbean must adapt to local customs and needs, and will require considerable time and input from various stakeholders to develop. Curating organizations such as museums can play a major role in raising awareness among different stakeholders and in particular the general public, as well as engaging them in the planning and implementation of curation of collections. Visiting researchers can actively contribute to engagement of all stakeholders through both public presentations of their research as well as participatory activities in which stakeholders take part in all stages of the research design and execution.

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Part Two

Community engagement

Community archaeology as an essential element for successful Archaeological Heritage Management

Jay B. Haviser

Introduction

Whether called community archaeology or public archaeology, the emphasis of this school of thought is the close involvement between professionals and the communities which they study as an essential means to integrate the scientific information recovered into the lives and education of those to whom the heritage information belongs. In the former Netherlands Antilles, now called the Dutch Caribbean, a close heritage bond between six different islands was artificially created through a European colonial presence from the Netherlands. Family lineages, accumulation of wealth, and cultural links were formed between the six islands of Aruba, Bonaire, Curaçao, Saba, St. Eustatius, and St. Maarten, for the last 400 years. The initial premise for this chapter was first published by the author as a paper partly providing an overview analysis of archaeological research conducted on the Dutch Caribbean islands throughout history (Haviser 2001). In that paper a detailed comparison was demonstrated of how during the early historical development of archaeology on these islands, the very implementation methods, with or without community involvement, were identified as having a profound effect on the relevancy of the generated heritage data for the local populations. This chapter goes beyond the simple observation of variable community involvement in archaeology over the years, to strive to gain deeper insight and case specific examples, into the functional aspects of how community involvement has worked and how it has not worked on the Dutch Caribbean islands.

The basics of community archaeology

As the name implies, community archaeology (CA) involves local communities in the planning and implementation of research projects that are of direct and specific interests to them as a community. As well, those professionals who practice CA tend to have a sense of altruism and idealism that their efforts are making a

larger social statement than the pure scientific research of a particular community's heritage. Considering that various scholars have different views of the means by which community collaboration can and/or should be actualized, it remains that there does not seem to be any formalized method to follow in CA. Nonetheless, there are several recurring approaches and issues in community involvement with research, which some professional institutions take advantage of for positive development, and others are more indifferent towards. Among the most important issues regarding successful CA are those dealing with: public outreach, de-colonization research, and self-reflection. While the more important approaches for CA are related to: self-interpretations through museums and institutions, publication and participation for/by the community, and long-term commitment by both the professionals and local communities.

Public outreach most often has the pivotal role of connecting scientific research about heritage, with non-professionals in the local communities. Public outreach is required to break down the intellectual barriers often created by a Western approach which places the professional researcher superior to the subjects of research. Through public outreach the non-professionals of the community are able to see first-hand the actual procedures of conducting archaeology and, consequently, they can better grasp the training required for fieldwork and experience the contexts for interpretations. The function of public outreach has as a direct reaction the very foundations for the de-colonization of historical information. Archaeology itself has often been criticized as having roots in Western colonialism, with the production of volumes of early, and not so early, historic documents all based on a Euro-centric perspective of the colonial sphere. One of the key issues for CA is to re-align that tide of thought towards the history of the colonies from the general local population experiences, and not exclusively the ruling colonizers' perspectives. This brings us to a third significant issue for CA, being the basis of self-reflection by the local population towards themselves and their heritage. This most often requires the hard challenges within the de-colonization of historical information with a subsequent direct public outreach, to allow communities to see for themselves and speak for themselves, what has been their past, what is their present, and where do they want to take their society into the future.

As noted above, in dealing with the approaches to CA, the three foundation elements are self-interpretations, direct participation and long-term commitment. One of the proven most effective means to provide an opportunity for self-interpretation of communities is via museums, exhibitions and institutions where those local perspectives are incorporated. These types of facilities, most often based on professionally acquired archaeological collections and information, afford the communities both a platform for presenting their views of heritage, and also a formal educational venue for distributing those views, thus creating a potential for collaboration between professionals and non-professionals. As well, it is the direct participation of the community members in professional research programs, from the planning stages to implementation, that offers the greatest potential for the eventual self-interpreted exhibits collaboration to be accurate, successful and relevant. With any community-based program, ranging from archaeology to agriculture, the real success is dependent on long-term commitment by both the

professionals (either local or not) and non-professional members of the community. The long-term commitment, I am referring to here, is not only related to the post-implementation phases of local education and facilities maintenance, it is also about the pre-research processes of developing a respectful relationship between the professionals and the communities they study. A professional researcher must clearly understand the specific social dynamics of the community, including the potential impact they themselves may have on the resident population, before they even begin their research (Haviser 2005). Within this context often lays one of the greatest complications for CA, that being clarity for the professional as to who speaks for the community. In some cases, the decision is easily identified by the community itself with specialists of their own designation, such as local archaeological or historical institutions. However, more often the professionals coming in for research should attempt to identify and include as many community stakeholders and interest groups as possible before the research begins.

In all manifestations of CA or public archaeology, its successful development is about reconciling the past within the contexts of the present, by having scientific research, community education and cultural resource management serve the needs of both the resident population and the professionals (Ascherton 2005). Two-way communication is fundamental for CA, as professionals share new data and scientific insights often unfamiliar to the residents, while residents share traditional insights, which might also include claims to ownership of the exhibition formats of those traditions. So that demonstration of respect and dignity for the local community is the essential element for successful cultural resource management (AHM) in the Dutch Caribbean, with our community youth now emerging to be that link between the residents and the professionals.

Dutch Caribbean case studies of community archaeology

As noted earlier, the precedent for comparing local community and foreign professional archaeology in the Dutch Caribbean was outlined over a decade ago, using numerous examples and references back to the 1980s (Haviser 2001). However, subsequent to that publication a specific call for more ‘grassroots youth programs’ in the Caribbean was made, which became the launch of one of the first true CA programs in the Dutch Caribbean on Bonaire (Haviser 2003). What follows here is an overview and detailed comparison of the various locally-based archaeological research programs established in the Dutch Caribbean from the 1960s until today.

Over the last decades, each island of the Dutch Caribbean has created some form of local-based archaeological program and/or institution, some with greater emphasis on the community youth. The earliest of these institutions was established on Curaçao in 1967, as it was the capital island for all the (former) Netherlands Antilles. This institution was the Archaeological-Anthropological Institute of the Netherlands Antilles (AAINA), which later became the National Archaeological-Anthropological Museum (NAAM). Following the separation of Aruba from the Netherlands Antilles constellation in 1986, the National Archaeological Museum of Aruba (NAMA) was founded. Subsequently, in 2000, the St. Eustatius Center

for Archaeological Research (SECAR) was established, in 2003 the Bonaire Archaeological Institute (BONAI), and in 2005 the St. Maarten Archaeological Center (SIMARC). After many years of archaeological research, cooperation, and presence by Leiden University, in 2012 the Saba Archaeological Center (SABARC) was created as a local-community facility for that island.

The primary theme of this comparative study is the 'archaeology and community' programs of the islands with a focus on the youth. However, the deeper intention of this chapter is to go beyond just saying 'the youth are the future', but rather to critically compare the various developing heritage and archaeology programs on each of the Dutch Caribbean islands, in order to see what is working, what is not, and how we can be more effective in our future development of CA relating to the authentic national heritage of the islands. What follows here is a brief overview of the local-based archaeological institutions present on each of the Dutch Caribbean islands.

The first Netherlands Antillean government agency for archaeological research was established on Curaçao in 1967. It was initiated by Edwin Ayubi who also became the first director. This first national institution, called the Archaeological-Anthropological Institute of the Netherlands Antilles (AAINA), represents the first attempt at structured cultural resource management for the islands. The early years of the AAINA were focused primarily on the accumulation of ethnographic collections and specifically on the development of legal frameworks for the preservation of historic and archaeological sites, the first national ordinance on which was ratified in 1977 (Haviser & Gilmore 2011). The initial staff of the AAINA consisted of Edwin Ayubi as its administrative director and for archaeology, Elis Juliana for ethnography, and Rose-Mary Allen for anthropology. Various limited archaeological investigations were supervised by the AAINA on the islands in the 1960s and 1970s, mostly by Dutch archaeologists such as Pieter Glazema, Jouke Tacoma, Carel J. du Ry van Beest Holle, and Hendrik R. van Heekeren, as well by Pieter Wagenaar Hummelinck, José M. Cruxent and Egbert H.J. (Ep) Boerstra. Into the early 1980s the staff of the AAINA was increased significantly, to also include: Wilhelmus P. (Wil) Nagelkerken for underwater archaeology, Jay B. Haviser and Nadia Brito as archaeologists, Eric La Croes as musicologist, and Ercarla Maduro as historian. Besides, in the early 1980s the first major archaeological research campaigns were initiated on St. Eustatius, with Leiden University, the Netherlands, conducting prehistoric studies under Aad H. Versteeg, and the College of William and Mary, Williamsburg, Virginia, USA, conducting historical archaeology research under Norman Barka. The AAINA was present to observe and supervise both of these foreign-based campaigns from the perspective of the local Antillean authority.

Exemplifying this new model of community-based authority for heritage matters, the AAINA always directly involved the local population in the research programs. With strong government support the AAINA increased its own archaeological database compilation research on all of the islands. This was conducted over the years primarily by Jay Haviser and Wil Nagelkerken. Albeit these projects were small-scale, local workers from each island were educated for fieldwork, and extensive local media coverage highlighted their participation. Furthermore, the AAINA was given increased authority to monitor new international research on

the islands, as well as to participate in cooperation programs with international organizations for research, such as with Leiden University on Curaçao. Regardless of international collaborations, the AAINA consistently promoted the intrinsic value of local ethnographic objects, with private ethnographic collections being regularly incorporated into the AAINA collections, while the AAINA archeological excavations were focused on sites of specific interests to the local island residents. The link between researchers and those whose heritage was researched, was explained in the latter's own language and made relevant to their daily life.

To actualize cost-cutting measures, the AAINA was removed as a government department in 1998, when the National Archaeological Anthropological Museum (NAAM) was established as the government sponsored foundation intended to serve the functions previously under the responsibility of the AAINA. Although initially continuing with some archaeology under the continued directorship of Ayubi, the NAAM eventually was headed by Aart Broek, who focused far more on literature and anthropological studies, including heritage education programs. One of the first community-oriented projects of the NAAM was the creation of educational heritage displays at the post offices and libraries on all the five islands (Aruba had already left the constellation).

After 2001, the NAAM came under the direction of Ieteke Witteveen, a cultural anthropologist from the Netherlands, who shifted the institutional focus and in 2008 changed the name to National Archaeological Anthropological Memory Management Foundation. In this period of change for NAAM both Haviser and Nagelkerken left the foundation. Over the years NAAM decreased museum work and archaeological fieldwork while increasing collections management efforts. The educational focus of NAAM continued to reflect respect for the traditional values of the local populations, albeit the vast majority of the limited research was by then conducted only on Curaçao. In 2009 the NAAM became a for-profit Curaçao government foundation and in 2011 Richenel Ansano, a cultural anthropologist born on Curaçao, was appointed as its director, with equally Curaçao-born Amy Victorina and Dutch-born Claudia Kraan taken on as NAAM archaeologists. The primary purpose for the renewed addition of archaeologists to the NAAM staff seems to relate to the for-profit aspects of Valetta Treaty compliance projects which are increasingly more available to NAAM.

Aruba separated from the Netherlands Antilles constellation in 1986, and subsequently the Aruba Archaeological Museum and the Aruba National Museum merged into the National Archaeological Museum Aruba (NAMA). Since that time it has grown in its scope of archaeological research and diversity of public exhibitions, thereby being able to establish the most autonomous archaeological program of all the former Netherlands Antillean islands. The NAMA currently has a majority of Aruba-born staff members, including Raymundo A.C.F. Dijkhoff and Harold Kelly as archaeologists, Luc Alofs as anthropologist, and Arminda C. Ruiz as administrator, and many others as management and staff. Through the NAMA, extensive community-based educational and heritage programs have been implemented over the years.

On the more quiet island of Bonaire the Bonaire Archaeological Institute (BONAI) was created in 2003 as a non-profit foundation by Jay Havisser in order to inspire local youth to become involved with heritage research. This BONAI program, as the first community-based archaeological program for the island, had to deal with the constraints of a small population and limited resources, which required various necessary adaptations. A great assistance came to BONAI via the participation of the Bonaire Museum director Jackie Bernabela and culture specialist Hubert Vis, both Bonaire-born researchers. High-school aged youth involvement in BONAI was stimulated at all levels of its projects, from the selection of research sites to the field-laboratory work and reporting. As well, the BONAI students were the primary contact for public media communications about the research. As a result, the local youth became the project core, not only for implementation but also for representation. Through cooperation with international organizations such as UNESCO and Leiden University, as well as the NAAM and SIMARC, the BONAI quickly became a regional model for Caribbean 'youth and archaeology' programs.

In the Dutch Windward Islands the St. Eustatius Center for Archaeological Research (SECAR) was founded by R. Grant Gilmore in 2000. The SECAR is a field-school oriented, for-profit research station based on international models such as Colonial Williamsburg and the Museum of London programs. Although for a short while some youth programs were initiated by Statia-born Misha Spanner, these efforts did not stand the test of time. It should be noted that the St. Eustatius Historical Foundation (established in 1974) and the St. Eustatius Museum have both greatly supported the SECAR over the years, with particular mention of the efforts by Gay Soetekouw and others. The 'field school participant' model, as the keystone of the SECAR approach, is based on specialized tourism agencies which find persons willing to pay the costs to conduct research, in order to have an opportunity to participate in that research on St. Eustatius. The archaeological research conducted under this field school model is properly actualized without doubt, yet it is most often done with a minimum of local worker involvement, and with the foreign participants having variable archaeological experience with Caribbean artifacts and sites, including even less experience with the small-island cultural values of St. Eustatius's society.

The St. Maarten Archaeological Center (SIMARC) was initiated as a non-profit foundation by Jay Havisser, and it has been operating since 2005 with partial subsidy from the St. Maarten Ministry of Public Housing, Spatial Planning, Environment and Infrastructure (VROMI). The SIMARC closely cooperates with the St. Maarten Museum and the St. Maarten National Heritage Foundation. In this respect the particular contributions of Elsje Bosch should be mentioned. The SIMARC activities include weekly lectures, accompanied by regular laboratory and fieldwork, all conducted under the supervision of Havisser for local St. Maarten high-school students. Specific research projects are funded from public support, international organizations and private donations, with the SIMARC students directly involved at all stages of the projects' planning and implementation. From 2005 to the present, SIMARC students have investigated, documented, and made artifact collections at a very wide variety of important archaeological sites on the

island. As well, the SIMARC reports produced from these investigations, have resulted in numerous sites being preserved, and/or properly developed by both the private sector and government. Just as on Bonaire, the students are the connection point between the SIMARC activities and the local media communications about the research results and methods, reinforcing the bond and representation of SIMARC as a community-based program. In 2011 the SIMARC was designated by official decree as the archaeological depository and research center for the St. Maarten government.

On the smallest of the Dutch Caribbean islands, the Saba Archaeological Center (SABARC) was initiated as a non-profit foundation by Jay Havisier in 2012, with Ryan Espersen as the local director of the SABARC activities, and Saba-born Vito Charles as administrator. Just as on Bonaire and St. Maarten, the primary focus of the SABARC program is community-based youth involvement in archaeological and heritage research, under professional supervision. The SABARC program works in close affiliation with SIMARC, SECAR and Leiden University.

Overview of SIMARC, BONAI and SABARC community-based research projects

The following review of research projects conducted over the last ten years by the SIMARC, BONAI and SABARC youth programs is indicative of the strong community-based orientation of these approaches on the respective three islands. All of these investigations have resulted in some form of public dissemination to the local communities, as either newspaper/TV/radio accounts, popular magazine articles and/or corresponding technical professional reports. One of the more popular approaches by the youth themselves has been a series of weekend newspaper articles about their research goals and results; on Bonaire the BONAI series is called *Hoben di BONAI ta papia!* ('Youth of BONAI speak out!') and on St. Maarten the SIMARC series is called *Through SIMARC Eyes*. These full-length newspaper articles provide a public format for the local youth to explain what they did, why they did it, what the results were, and how it is relevant to them (and the community) today. In the case of Bonaire, these newspaper articles are always published in the local language of *Papiamentu*.

Every two years since 2005, students from the BONAI, SIMARC and SABARC CA programs have been making presentations at the International Congress for Caribbean Archaeology (IACA) (Abraham *et al.* 2005; van Arneman *et al.* 2007; Velasquez and Halley 2009; Lusía and Hurtault 2011). Presented below is a summary of their various research projects in two-year blocks, based on their own presentations at several IACA meetings.

In 2003 the BONAI group initially introduced itself to the Bonaire community by conducting a standardized questionnaire survey on the 'greeting systems' of Bonaire. This study allowed the students the opportunity to participate directly among the general public, with an actual questionnaire survey (which they designed) and by making anthropological observations on Bonaire cultural behavior related to public greetings. The report of their results helped themselves and the community to self-reflect on how they actually do greet each other, when

in greeting physical contact is made, which gender differences exist, etc. This simple introductory project gave the BONAI students a positive public profile as conducting scientific research and by discovering interesting information for a broader community self-reflection. Subsequent BONAI research projects between 2003 and 2005 included mapping and documentation of Bonaire's various large caves, many of which have prehistoric rock art. During this project the students observed the ongoing destruction of many of the important prehistoric rock art sites of the island. Following its completion they took the initiative to write a letter to the Bonaire government requesting protection of the sites. The end result was that the government listened, and indeed placed protective ironwork at the most important sites preventing further damage. The lesson for the BONAI students was that they can make a difference to implement change if they take empowered action, while the example for the Bonaire community was that these students are capable to take on major public challenges based on their scientific research.

Other BONAI research projects in this period included: limited test excavations in the Kralendijk historic town center, where planned development was to impact the area; a youth exchange visit to the Aruba and Curaçao museums; a limited test excavation at Lac Bay where a prehistoric human skeleton was exposed and required archaeological removal; and the installation of a small BONAI Youth Museum at Fort Oranje. One of the most difficult projects in this early period was the cleaning, preparation and reconstruction of a 14-meter long whale skeleton for an educational exhibit at the National Park about the intimate cultural link between the Bonaire people and the sea. This huge display feature has become an island landmark, yet it once again reconfirmed in the community the consciousness that these BONAI students were serious about science and effective in their projects. The positive regard by the community gave the students confidence in what they were doing, and the community itself developed greater pride in their youth. All of these initial BONAI projects and their public outreach results made a clear impact on the general community, and induced the decision-makers to initiate effective change in order to protect and recognize the value of the Bonaire cultural heritage based on their own self-reflection.

With the establishment of the SIMARC in 2005, both SIMARC and BONAI projects were presented by the students to the IACA meetings for the 2005-2007 period. On Bonaire the BONAI youth formulated a combination project for heritage appreciation and the environment by creating a very large (3-meter tall) artwork representative of heritage artifacts and then sunk the huge artwork at a location on the shoreline that needed serious reef revitalization. UNESCO was so impressed with this 'Heritage Reef' BONAI project, that this agency not only sponsored it, but also promoted it as a model example for other youth programs in the Caribbean. Once again, the community saw the BONAI youth profiling the Bonaire cultural heritage and scientific help for the environment to an international audience, with pride and respect for their initiative and creativity.

In this period of 2005-2007 the SIMARC youth of St. Maarten were also making their first introduction to their community, so as a first project they decided to take on a major controversy at the time, an archaeological investigation of the Emilio Wilson Estate. In 2005, when a 18-19th-century plantation was in

the middle of a public outcry for protection against development, the SIMARC stepped in to document the archaeological evidence and thereby provided an empirical basis for protection of significant parts of the site. Even more important than the documentation, was the emphasis of the SIMARC research on the African heritage at the site, which had been mostly omitted from its popular history. This SIMARC highlight on the African heritage was clearly of specific interest to the St. Maarten community, the majority of which is of African descent. Thereby, the SIMARC youth were seen by the community as leading the way in breaking barriers by opening heritage knowledge of the island's African past, using the scientific methods of archaeology and creating a database necessary for the protection of the site. Other SIMARC projects in this period were: the mapping and limited excavations at Fort Amsterdam, including the creation of a heritage park at the site, with information signs, walking paths and benches (Figure 7.1); the requested exhumation of the remains of a Catholic priest on the island, demonstrating to the community how archaeological science and religious history can compliment each other; the conducting of a SIMARC youth exchange to Saba and St. Eustatius with extensive reporting in the local media; and the burying of a SIMARC time capsule on the public promenade, for which the public was requested to suggest items to be deposited in it. One of the great moments of SIMARC was in 2006, when Queen Beatrix of the Netherlands actually visited the SIMARC center, thereby supporting a very strong positive public image for the community towards SIMARC and its programs. One of the creative contributions of the SIMARC students during the



Figure 7.1: SIMARC students researched then created, heritage information signs at Fort Amsterdam, St. Maarten.

Queen's visit, was that they had printed 100 color cards with the visitation date, a painted image of her, and various pictures of SIMARC students in action. On her visit they presented everyone at the event a copy of the card, and presented the Queen with the original painting on the card. It was noted to all at the time, that only 100 cards were printed thus they represent a unique 'artifact of the moment', forever to be only those 100 cards distributed at that moment! This kind of creative approach by the SIMARC students gained appreciation and respect from the general community, and perhaps even the royal elites, that such a simple example clearly indicates the relevance of artifacts in our lives.

Between 2007 and 2009 both the BONAI and SIMARC groups were very active, including working together in 2007 with a SIMARC-BONAI youth exchange, having each group visit the other's island, to see heritage sites and museums, and to experience cultural life. Several major projects were conducted by BONAI on Bonaire during this period, such as the restoration of historic navigational obelisk structures located near the salt pans. These four large pillar-shaped structures needed serious restoration, and the BONAI students further created information signs that explained the history of these unique historic features. As well, BONAI conducted a Valetta Treaty compliance investigation for the DROB spatial planning office, prior to public road construction at Kaya Nicolaas. The most prominent research project for BONAI in this period was the survey and excavation of a World War II military camp called Tanki Maraka. The BONAI archaeological investigation of the Tanki Maraka site created an enormous popular interest in the community, particularly when the students also conducted oral history interviews with community members alive at that time (Figure 7.2). The BONAI students were seen as linking heritage from the past into the present, using a topic the public felt strong affinity for yet had little information about. The Tanki Maraka BONAI research data was eventually published as a history chapter in the local high-school textbooks. This allowed the BONAI students to see themselves in their own school textbooks, reconfirming to themselves and the community the value of what they were doing.

In the period from 2007 to 2009 several significant SIMARC research projects were conducted on St. Maarten, with the results presented to the community. Some of these SIMARC projects included: a Valetta Treaty compliance investigation prior to development plans at Cay Bay; a rescue excavation project for the government at the Great Bay Methodist cemetery, where specific public attention was given to the reburial of the remains after removal and identification, showing respect for the remains as an expression of community values; a youth exchange with St. Kitts; making a unique contribution for Enviroweek Events by printing a newspaper from the year 2028, whereby the SIMARC students explained how things could be in the future with proper attention to heritage and the environment resource management; a cooperation questionnaire project with the University of St. Martin for Philipsburg urban planning; an investigation of a Free-African settlement at Over-the-Bank, where excavations revealed housing remains from this little known aspect of Free-African heritage on St. Maarten, as well with this project the SIMARC students invited primary-school youth from the specific Over-the-Bank community to participate; and mapping-excavations of the original Simpson



Figure 7.2: BONAI students learned to map and document the Tanki Maraka WWII heritage site on Bonaire.

Bay Bridge, a heritage site which few community members knew still existed, as it represents both symbolically and literally the bridge between the isolated Simpson Bay village and the mainland St. Maarten community. One of the most community-appreciated projects of SIMARC, an Historic Trees Inventory of the island, began in 2008. This research required the SIMARC students to go into every corner of the Dutch side territory, to thoroughly document trees with base diameters over 100 cm. The general community was so enthusiastic about this project, that the SIMARC students decided to directly request the St. Maarten government to declare a National Tree Day and pass regulations to protect these large historic trees. Based on the SIMARC petition, the St. Maarten government passed a tree ordinance for the protection of historic trees, accepting the SIMARC Historic Trees Inventory as the standard database, and declared March 22 of each year as the St. Maarten National Day of Trees. This is a mighty result for a group of high-school students, inspired by the admiration of their community and empowered to take action for causes they feel promote pride in heritage.

Some of the SIMARC and BONAI projects during the period from 2009 to 2011 were the continuation of investigations from the previous period, such as the Historic Trees Inventory on St. Maarten, which was by now also introduced by the BONAI students to Bonaire. Other major BONAI projects in this period included: a inventory and documentation of folk house structures for the DROB office; participation of the BONAI students in a NAAM symposium on cultural heritage on Curaçao; creation of a documentary film by Merel Notten about heritage, youth and BONAI on Bonaire, for distribution in the schools and

internationally; and a major research project in 2010 at the Slagbaai-Gotomeer area within the Washington National Park, in cooperation with Leiden University, BONAI, SIMARC, and STINAPA Bonaire. This Slagbaai-Gotomeer project was a significant milestone for BONAI, such that the students were able to work together with university students and helped to identify important new heritage sites, including the newly discovered oldest known archaeological site for the island. The image for the community was BONAI students working with respect from professionals and making important new discoveries for the island.

In this 2009-2011 period three major international cooperation projects were implemented on St. Maarten, all with SIMARC involvement. First of all, a rescue excavation of African human remains that revealed dental modifications was made. In order to establish indications of their origins the University of Copenhagen conducted DNA studies. Besides, by invitation of the City University of New York, a group of SIMARC students visited excavations on Barbuda, and they actively participated in the fieldwork on this island, also engaging in a youth exchange with high-school students there. Finally, a cooperation project to create a digitalized GIS map of the most important heritage and archaeological sites on St. Maarten was executed between SIMARC, NAAM and the Amsterdam Bureau of Monuments and Archaeology, the Netherlands. All three of these projects showed the St. Maarten community that SIMARC was respected internationally, and that the SIMARC students were doing something significant for St. Maarten. Other major SIMARC projects in this period were: the location by limited excavations of an 18th-century Jewish burial ground in Philipsburg, which is currently being followed up with DNA analyses; limited excavations and mapping at sites such as a Geneve Bay homestead, the Billy Folly phosphate mines, the Fort Willem complex, and the Wathey House; cleaning and preparation of an 18th-century anchor for preservation resulting in a prominent public display, cooperating with the prison inmates who built the wooden stock and carriage for the anchor and cannon; restoration and painting of various iron cannon publicly displayed at business properties around the island, as a community service; participation in the NAAM symposium on Curaçao about cultural heritage; and the production of various SIMARC 1-minute TV commercials, broadcast regularly on local TV, in which the students voiced their empowered opinions about the protection of heritage. One of the SIMARC-NAAM projects for 2011 which gained a lot of popular community reaction was the coordinated return of archaeological artifacts housed at NAAM on Curaçao that belonged to St. Maarten. Following the critical transformation year 2010, these archaeological materials were formally returned and housed at SIMARC, now officially recognized as the St. Maarten facility for archaeological artifact collections. With this event, SIMARC represents more than a storage facility, it now forms the community-based center for heritage collections.

SIMARC has also always been there when archaeological assistance was requested on the Dutch sister islands of Saba and St. Eustatius, and in 2010 with the first introduction of Valetta Treaty compliance codes to those islands, a mitigation of human burials was requested at the Breadline site, Windwardside, Saba. This excavation project was conducted as a SIMARC-SECAR cooperation research, with Leiden University assistance and approval of the Saba government.

The private developer commissioned this work, which required the archaeological documentation and removal of five human burials, to SIMARC (Jay Haviser) and SECAR (R. Grant Gilmore). During his stay, Haviser also promoted the potential to create a youth and archaeology program on Saba, and thus several Saba high-school students (who later became SABARC students) helped with the Breadline research project.

In the last two years, 2011-2013, SABARC has increasingly joined in with new CA research programs, along with SIMARC and BONAI. One of the more exciting projects for all the students was a series of exchange programs for SIMARC-SABARC and BONAI-SABARC sponsored by the Prince Bernhard Culture Fund, whereby these three groups were able to meet, have youth forums, and exchange ideas regarding each of their islands.

On Saba in this period, the SABARC program grew significantly under the direction of Ryan Espersen, with the close cooperation of Leiden University. As part of his doctorate research for Leiden University, and also for his position as Fellow in the EUROTAST Trans-Atlantic Slave Trade program, Espersen directed several archaeological excavation campaigns on Saba from 2011 to 2013, with SABARC student participation. The primary area of focus for his research were sites of African heritage on Saba, and, consequently, the main excavations were conducted at the Middle Island and Cow Pasture locations as historic homestead community sites, and at two Spring Bay Plantation sites. As on the other islands, the Saba community sees the participation of the SABARC students as a linkage with the project research, reflecting increased respect for their own community youth.

On Bonaire in this period, a BONAI proposal was made for the Tanki Maraka World War II site to be developed into an open-air museum heritage park. This project was sponsored by the Mondriaan Foundation of the Netherlands, and was followed by the production of a 20-minute TV program about the site for local TV stations. The official opening of the Tanki Maraka Heritage Park is planned for late 2013, as a BONAI contribution to the Bonaire community.

On St. Maarten in these last years, various cooperation projects were conducted by SIMARC, these included: working with SECAR for an archaeological survey at Joremi, as well as various rescue excavations at several other sites on St. Eustatius; and work with the European Union in a multi-national Trans-Atlantic Slave Trade project called EUROTAST, for which in 2013, SECAR hosted a week field training on St. Eustatius and SIMARC hosted a EUROTAST symposium on St. Maarten. Also on St. Maarten: a Valetta Treaty compliance site survey and excavations were conducted by SIMARC at the Rockland Plantation site; as well, SIMARC excavations were conducted at the Golden Rock Plantation site; rescue surface collections were made at the recently destroyed Cupecoy Bay prehistoric site; and sub-surface sonar plotting was conducted at the site of a potential Jewish synagogue, in cooperation with specialists from Florida. In this period the 2012 celebration of National Tree Day was one of the more curious SIMARC projects. It involved a mutual and simultaneous exchange of national iconic trees with the European Netherlands (juniper) and St. Maarten (guavaberry). This SIMARC coordinated Tree Day Exchange demonstrated to the community that St. Maarten has an equal standing of mutual respect with Holland. The decision of Chris

Velasquez, a former SIMARC student, to study archaeology at the City University of New York has been the single most important event for SIMARC in the last years. Velasquez is currently in his third year of study at CUNY, and after completion of his Master's degree, he will return to become the director of SIMARC, and the first St. Maarten-born archaeologist.

An additional key element of the community-based archaeology initiatives in the Dutch Caribbean has been to go beyond the borders of each island's individual program in order to incorporate the various islands into a broader network of international exchange in the region. As noted above for the smaller island programs of SIMARC, SECAR, BONAI, and SABARC, fieldtrip exchanges have been conducted to Aruba, Curaçao, St. Kitts, and Antigua-Barbuda, as well as among the four islands of each group, to visit the museums and professional archaeological fieldwork being conducted elsewhere, so as to allow the students to develop a comparative perspective and models for their own island's work planning. Other important fieldtrips could be made when major institutions such as Leiden University, the City University of New York, NAAM, and NAMA provided valuable opportunities for learning by the students and further exchange of ideas with the youth of other islands. As noted earlier, another important aspect of this international networking has been the participation of students from these Dutch Caribbean community-based programs in international congresses and conferences. For instance, BONAI students participated in the 2005 IACA congress on Trinidad, SIMARC students in the 2007 IACA congress on Jamaica, the 2009 IACA congress on Antigua, and the 2011 IACA congress on Martinique,



Figure 7.3: SABARC students meeting King Willem-Alexander for the opening of their Saba Heritage Trails project.

while a SABARC presentation took place at the 2013 IACA conference on Puerto Rico. Their papers were published in the volumes of the various IACA proceedings. Furthermore, the Museums Association of the Caribbean (MAC) held its annual meeting in cooperation with SIMARC in 2007. This international connection to the regional professional research programs is strategic, as it provides the community-based students an opportunity to see, first hand, what professions in archaeology and heritage consist of. Perhaps more importantly, these are experiences on which they can learn the standards of professionalism and the goals of other research programs, thereby providing the students with models of approach in which they can apply their concepts of community-based research in a professional manner (Figure 7.3).

Even among themselves, the students taking part in the community-based programs of SIMARC, BONAI and SABARC have been conducting a series of youth forums on each of their islands. In 2008 the European Union sponsored such a SIMARC-BONAI youth exchange through their Support of the Netherlands Antilles Youth Development Programme (SNAYDP), and in 2012 the Prince Bernhard Culture Fund sponsored both the SIMARC and BONAI groups to visit SABARC on Saba for such forums. On each island the goal of these youth forums was for the students to discuss in a public format important current topics related to heritage, monuments, archaeology, environment, culture, and education from their own perspectives as the youth of the islands. To broaden the scope of community awareness, these youth forums were broadcasted via radio and television on each island, and with some additional filming of these forums for eventual broadcast in the Caribbean, USA and Europe.

In regard to broader community service, the SIMARC has developed a strong direct interaction with local schools, local civic organizations, local churches, private sector citizens, and by official government decree providing storage for important St. Maarten artifact collections. The SIMARC also offers some limited forensic services to the St. Maarten Police Department, an experience further enhancing the connection between the students and the professional archaeological requirements within their community.

From the examples noted above, we can see that the community-based programs of specifically SIMARC, BONAI and SABARC serve as clear CA role models. They realize this goal by engaging the local youth and teaching scientific methods to understanding about heritage, while insuring that the local community is well informed and involved in the heritage research. Furthermore, these programs are recovering important archaeological data at professional standards for a better understanding of their heritage, including assisting relevant government agencies with the preservation of the heritage sites. When occasionally confronted by community members inquiring as to why the students see this as important, I have witnessed that they confidently respond with the conclusion that Caribbean people must take more responsibility for researching their own heritage, and who better than the Caribbean youth themselves can do this.

Brief summary of CA models in the Dutch Caribbean

Presented here are three different basic approaches to local-based archaeology development, which are being applied in the Dutch Caribbean:

- *The Curaçao Model*: as described previously, this model for CA has a decreased emphasis on archaeological fieldwork, with an increased focus on collections management and anthropology;
- *The St. Eustatius Model*: this model focuses on the imported field-school format as a successful core financial basis, yet with minimal inclusion and involvement of local participants;
- *The Bonaire-St. Maarten-Saba Model*: this CA model emphasizes attention on local youth as the key means to conduct and communicate systematic field research results to the local community.

Benefits and deficits of these models

The Curaçao Model does have a strong community contact via its ‘applied’ anthropological methods and educational programs, yet with decreased archaeological research, there is a reduction of the archaeological database being generated for interpretations. There are strong public outreach and de-colonization aspects to the Curaçao Model, with clear approaches towards self-interpretations and publications for the community, yet local participation and long-term commitment are less evident. In the early AAINA years, an involvement of all the Dutch islands was emphasized, while during the NAAM years research focus has been directed primarily on Curaçao.

The St. Eustatius Model has the most efficient and effective financial planning for research work compared to all the other models. However, there remains a potential isolation of the research data results due to minimal local participation and thereby reduced local interests in the conducted projects. The St. Eustatius Model exhibits minimal aspects of local self-reflection, de-colonization, and self-interpretations, yet with some minor public outreach, extensive publications (albeit primarily for professionals rather than the local community) and uncertain long-term commitment due to the lack of local participation.

The Bonaire-St. Maarten-Saba Model offers the most extensive integrated community action and involvement with research, giving strong attention to the youth, and community education from a local perspective. However, these small island programs are only able to implement small-scale field research methods, and thus often require outside institutional cooperation for larger-scale projects. The Bonaire-St. Maarten-Saba Model provides all of the essential issues identified for CA, including public outreach, de-colonization, and self-reflection, implementing these aspects through all of the core elements for a CA approach, being: self-interpretations, local publications and participation, and certainly a long-term commitment via the training of local youth.

Where do we go from here?

Since their placement under the Netherlands on 10 October 2010, the BES Islands (Bonaire-St. Eustatius-Saba) now have the contexts for increased Netherlands professional involvement and assistance for future archaeology programs on these three islands, thus the following recommendations are presented for compliance towards a more CA approach. It is strongly suggested that some form of archaeological research and collections storage facility is needed on Saba, perhaps in cooperation with the Saba Museum, as a specific locale for SABARC community-based operations and for community education. It is presented here that any new archaeological organizations coming into these small island societies, such as commercial archaeology groups, must have proper background training in the cultural values and norms of each of the island communities prior to being allowed to implement research. It is further noted that some new research programs could incorporate the financial stability field-school approach of the St. Eustatius Model, yet all implemented programs must include the community and youth integration of the Bonaire-St. Maarten-Saba Model as an essential element for future CA development.

For Curaçao, St. Maarten and Aruba far more responsibilities have already been taken over from the Netherlands and placed directly on the local authorities and institutions. Thus, these CA models are being suitably created by each respective island, yet implementation must always be held accountable within the international professional standards of the Valetta Treaty. If a larger-scale research is desired by the local community, then cooperation programs can be initiated among the islands and/or with other nations, including the Netherlands. However, at all times respect and dignity are to be provided priority for the islands in their own approaches to AHM and CA, even in the event of theoretical or philosophic contradiction with the Netherlands.

With all of these models, local community leadership is the true key to success of a program, a leadership which embodies both self-reflection and long-term commitment. The acceptance of a research project by a local community, and thus its value to that local community, clearly is affected by variable relationships between the local leadership and the outside professional researchers. In the community-based examples, such as those of SIMARC, BONAI and SABARC, the investigators and youth are perceived by the general community as conducting research for local benefit and from a self-reflective perspective, while in some other cases there is a general perception of foreign researchers as 'inquisitive tourists' (Haviser 2001) with little to contribute to local community knowledge. There are some short-term economic contributions to the local community via expenditures by the foreign researchers, including those who have tried to compensate with additional assistance such as support for local museums and/or the local tourism industry, yet the sense of personal connection with the local population is often lacking (Graham & Mills 1990). It has been well established that the work of archaeology is itself part of the cultural process that perpetuates the formation of national histories and identities, thus what the local community presents as its tourism product expresses that contemporary social formation. Certainly, some benefits have been brought by professional archaeology to the tourism industry on these islands. However,

as the host country with ever growing tourism demands, each island must still prepare for adaptation to a new touristic socio-cultural reality, among the various ethnic groups and all classes in the society (van der Linde 2012). Ironically, on all islands there has been an extensive involvement of island dignitaries in the negotiations for archaeological work, which exemplifies that access to foreign specialists enhances one's social status within a community (Nash 1981). In such cases, the heritage information generated by foreign archaeologists is seen by a large portion of the general population as exclusively for the elites of their community, and therefore of less relevance to themselves, and the occasional compensative contributions to the community often do not display a long-term commitment to heritage education. This is why confident local leadership is so strategic for success, and further indicates that the SIMARC-BONAI-SABARC Model provides a very real pathway through which local community youth can be trained to eventually become the archaeologists of their own islands.

This chapter discussed the critical issue of cultural transformation resulting from the interaction between the Dutch Caribbean communities and the array of material culture researchers who have practiced various approaches on the islands. It is intended as a general reference for the material culture research that has been done on the Dutch Caribbean islands, not so much from a particularistic archaeological approach to the data available, but rather as a summary and evaluation of which types of CA approaches have taken place on these islands and the impact those variable approaches have had on the islands' current populations. Thus, the reader has been given both the general sources of CA work, to which they may turn to for inquiry about specific archaeological programs, yet also and perhaps more importantly, an insight into how the act of conducting archaeology has significantly affected the lives of the Dutch Caribbean people.

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Community engagement, local identity and museums

A review of past heritage initiatives and recent developments on the island of Saba

Helena Boehm

The relationship between a museum and its community has, of late, been a significant point of focus within museum literature and debate (Buijs & van Broekhoven 2010; Crooke 2006; Perkin 2010). Indeed, a new worldwide relationship between museums and communities has meant that today museums are re-assessing their role and function (Crooke 2011; Peers & Brown 2003; Trofanenko 2006). The term ‘community’ enters the arena of discussion with regard to a host of issues including museums’ obligations to indigenous groups (Jacobs 2009; Krmpotich & Peers 2011; Trofanenko 2006:52), their potential to aid with social problems (Crooke 2011:170; dos Santos 2012; Perkin 2010:108) and their ability to address politically or historically sensitive issues (Crooke 2006:132-133, 2010:27). The museum-community relationship is discussed here, however, in connection with engagement projects and their capacity to enable groups to express their own sense of identity, allowing them to interpret, explore and contest it on their own terms and in their own voice. The museum sphere has the ability to act as a discursive, multi-vocal space, where the voice of the ‘expert’ is no longer the loudest. As Karp (1992:132) quite rightly points out, it is people who have always been at the root of what museums do and it is people who are at the centre of the museum’s mission. It is only common sense, therefore, that a museum’s local community should be actively involved in its work and, moreover, hold a significant stake in the display and interpretation of its content. The discussion here follows the definition of community provided by Brown (2004:143), who considers the concept to be ‘an interacting population of various kinds of individuals in a common location, with individuals often sharing a common history or common societal, economic or political interests.’ It should be noted, however, that the concept is a broad one that may constitute multiple meanings in different contexts (Crooke 2011:172-173).

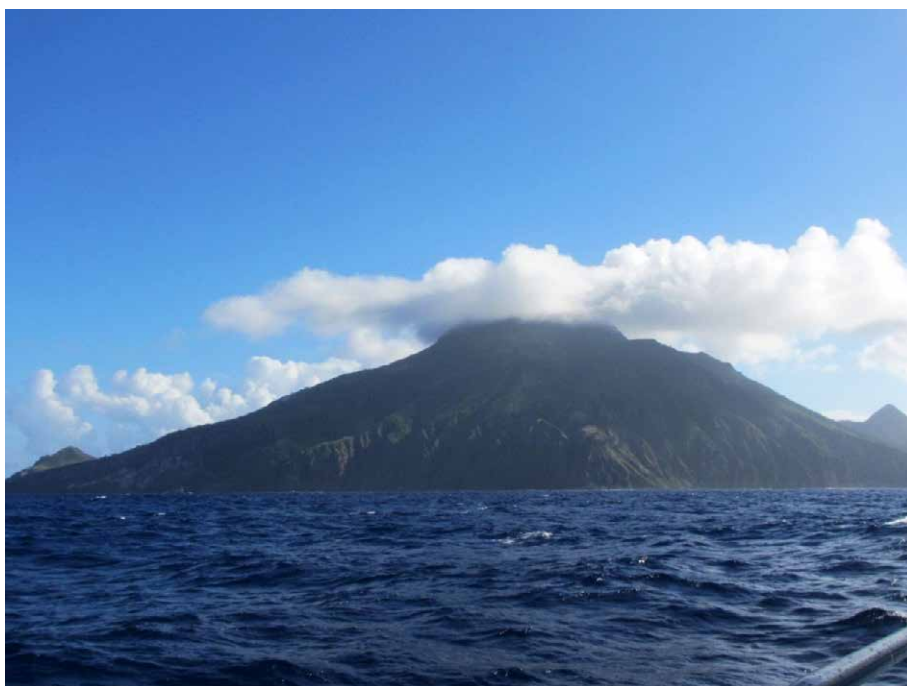


Figure 8.1: The island of Saba. (Photo by Phillipa Jorissen).

The island of Saba (Figure 8.1) serves here as an in-depth case study that examines the extent and benefits of community engagement projects with museums, heritage and archaeology within a small and unique population. Interview-based research within the local Saban community was conducted on the island in January 2013 and will be utilised to satisfy the main objectives of this paper. Firstly, the paper aims to understand the extent of community engagement with heritage and museum work on Saba. Secondly, it aims to establish exactly how increasing community participation and strengthening the museum-community relationship on the island can benefit the local Saban community, ultimately serving as an example of the benefits of community work within the museum sphere. In order to establish the theoretical framework of the primary research conducted on Saba, the following exposition will begin by discussing current museum theory related to the concepts of community and identity, with the latter focusing on the Caribbean region in particular. It will then go on to document museum work and community engagement projects on Saba over the last few decades. Finally, an analysis and discussion of the interview-based field-work conducted on the island will be provided.

Community engagement in the museum world

The late 1980s and beyond have seen a change in the museum sector, which today has been re-conceptualised, leading to a new relationship emerging between museum and community, with the emphasis resting on the social obligation of the museum in contemporary society (Trofanenko 2006:52). The display of a community's

heritage within an exhibition has the potential to provide a community with voice and validation (Crooke 2006:139); this has led to community participation being seen as a key part of the contemporary museum. Community-based museums and eco-museums, in particular, have increased community involvement in the process of constructing representations (Simpson 1996:71). The acknowledgement that local communities should be afforded the right to create their own representations of their heritage, presenting, interpreting and expressing it on their own terms, can be seen in a new museum-community relationship in countries all over the world. Current research has focused extensively on particular countries, including Ireland (Crooke 2006, 2011), South Africa (Crooke 2006), Canada (Fuglerud 2012:172; Shelton 2007:369; Trofanenko 2006), the United States (Karp 1992), Brazil (dos Santos 2012), and the United Kingdom (Nightingale & Swallow 2003).

The ultimate success of community projects can be credited to their bottom-up approach (Crooke 2011:177). The new museum-community relationship cannot be based on a top-heavy approach, which sees the curator or museum professional as the sole 'expert' in control of exhibition creation and the representation of a community's history. Community members, as stakeholders in a museum's collection, must have an input into its presentation, for it is their history and a part of their identity that is on display. Indeed, direct consultation with community members is required from the newly emerged curatorial practices, which are involved in working with communities (Peers & Brown 2003:13). A deconstruction of roles is needed that sees the traditional museum 'expert' relinquishing authority in the museum space and the community itself contributing to a museum's work. A successful example of this can be seen in the International Research Network that is formed from a partnership between the Pitt Rivers Museum, UK, and the Haida First Nation of British Columbia, Canada (Krmopotich and Peers 2011). The project is based on an exchange of knowledge between different 'communities of practice' and indigenous community members taking on the role of scholar-practitioners, ultimately providing all stakeholders in the museum's collection the opportunity to obtain something of value.

Directly related to the above and the emergence of museum-community work, is the conception of the museum space as a 'forum' (Duncan 1971). It is now a necessity that a museum should become less of a temple and transform into a forum (Crooke 2000:132) where motivations and interpretations are questioned (Ruby 1992:107). This would see the realisation of a collaborative approach and the museum space as a site for multi-vocalisation. The design of exhibitions that attempt to present multiple perspectives is advocated by Karp (1992), which would result in the voice of 'experts' diminishing to allow multiple interpretations, contestations and representations by the community itself. Moreover, a collaborative approach would serve as a precaution, preventing museums from returning to a top-down system that has in the past seen museums determining the needs of a community (Perkin 2010:459).

In addition, to briefly address a community's physical heritage and archaeology outside of the museum space, community engagement projects have the potential to aid in heritage management and preservation. The benefits of community archaeology have been emphasised by Moser *et al.* (2003:225), with a prominent

one being that an extensive degree of knowledge can be accessed through the involvement of community members. On the Caribbean Island of St. Vincent, in the Windward Islands, a recent tourism project was implemented in 2007 by the Government of St Vincent and the European Union, which was aimed at developing the infrastructure of nineteen heritage and recreational sites on the island (Lewis 2011). One of the most useful actions of the project was to include local people in the management of sites, providing them with a direct ownership stake in their protection. Furthermore, this would contribute to the implementation of economic initiatives within the community and provide them with the opportunity to learn new skills. Community participation was intended to help with instilling pride in the community and increase the desire to protect, conserve and promote local heritage. This project makes evident the possible outcomes of community engagement with archaeology and heritage. In museums and historic sites alike, community participation increases equality for all stakeholders and can heighten the protection and knowledge of material remains.

Representing community identity in the museum space

Museums can play an enormous role in presenting, expressing and interpreting identities, which is inherent in the new museum-community relationship. The loaded term 'identity', as utilised here, conforms to the definition provided by Watson (2007:269). She defines identity as a complex concept with, in accordance to a Western framework, each individual retaining his/her own identity that is expressed and demonstrated by a loyalty to groups with shared characteristics such as nationality, ethnicity and culture. However, the definitions of community, identity and, furthermore, heritage are continually reconceptualised and renegotiated and museums contribute to this process (Crooke 2010). Watson (2007) draws attention to the importance of the role museums hold in identity making, as spaces where identity can be challenged, explored and rethought. Identities are produced, consumed and regulated within culture (Newman & Mclean 2006:50), resulting in museum displays being able to provide discursive spaces for communities to explore their identity.

In addition, to address the Caribbean in particular, there is great potential for museums in the region to function as sites of identity making and as spaces that serve to enable Caribbean communities to explore their diverse identities. The Caribbean region, specifically Jamaica, has been described as resting in an ambiguous place between the ancient and modern worlds, pertaining directly to neither one nor the other (Modest 2012). This is explained as being the result of European conquest and colonisation, the decimation of the indigenous peoples and various repopulations. Consequently, the region is seen today as being largely a product of Western modernity. In reference to the Dutch Antilles in particular (the location of Saba), Oostindie (2010:117) has proffered that no one homogeneous Antillian identity exists, rather that identities are primarily island related. Furthermore, he expresses his belief that in the former Dutch colonies there is not a strong sense of a shared Afro-Caribbean identity among the descendants of enslaved Africans. Indeed, it has even been suggested that a significant loss of

community identity has occurred in the region, therefore requiring that Caribbean museums operate as sites of questioning, promoting community involvement as well as relinquishing any boundaries or control (Cummins 2004:240).

Intrinsically linked to the past and present identities of the local insular communities in the Dutch Caribbean islands, and the expression of them in the museum space, is the cultural impact that archaeological research itself can have. Havisser (2001) has suggested that historical archaeological research on the islands, which at the time of writing was a relatively recent emergence, gave rise to varying degrees of cultural transformation within the modern island populations. The impact of North American and European archaeological teams coming onto the islands and dealing with sensitive historical data that is intrinsically linked to a community's ethnic identification, is stressed as having an extensive impact on the social structure of the local Antillean societies as they respond to the teams' presence. Indeed, the local perception and degree of acceptance concerning the research conducted, combined with positive factors such as an increase of historical awareness and an appreciation for the value of archaeological findings, can have differing cultural impacts on the island societies. Havisser stresses the importance of community involvement in archaeological research in order to mitigate any negative effects of researchers from outside the community coming into the island community and determining research aims and objects. To briefly address the island of Saba specifically, although historical archaeological research is fairly limited (Havisser 2001:8), partly down to the small size of the island, it is still actively conducted today. From personal experience there appears, at present, to be a positive relationship with the archaeological team and researchers on the island and a noticeable focus on working together with the community. In addition, archaeological research appears to be increasing the awareness of the island's history among the community, as well as increasing the appreciation for the value of archaeological remains and artefacts. On Saba the prominent presence of an archaeological team on the island, the research its members conduct and the cultural impact of this, could be used to establish museum spaces where the local community can work together with archaeologists. Moreover, archaeological and historical data could be used as medium to explore the local community's complex history from its own, or other, perspectives and affirm its unique identity.

Museums in the Caribbean, and elsewhere, have today often been transformed into sites where communities can engage with their heritage on their own terms, with beneficial consequences for all stakeholders. What is more, they present opportunities for communities to explore and present their identity for themselves and the wider society, providing community members with the power to assert and contest representations of themselves.

The island of Saba and its history

Saba, located in the northern Lesser Antilles (Figure 8.2), is one of the smaller islands in the Caribbean region, with a surface area of 13 km² (Hofman & Hoogland 2003). It is a small and incredibly unique island, with a long, diverse history. As it currently stands, there is occupational evidence dating back to 1500-1800 cal BC,

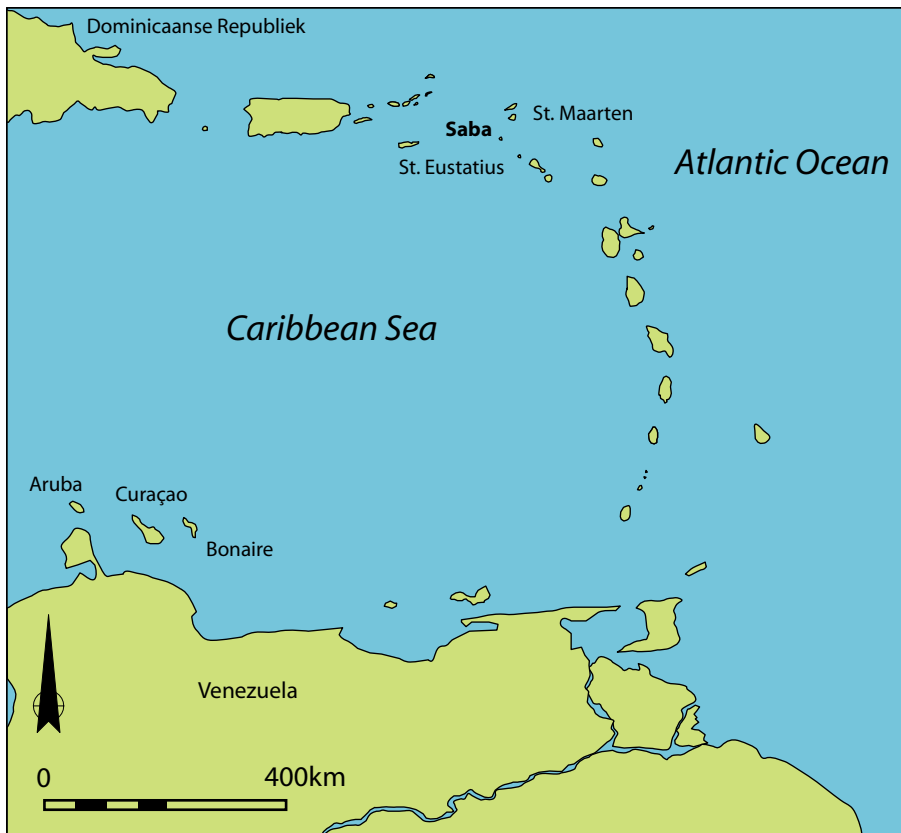


Figure 8.2: Location of Saba in the Lesser Antilles. Copyright nexus1492.

evidenced by the site of Plum Piece, which is situated high above sea level, in contrast to many Amerindian sites in the Lesser Antilles (Hofman *et al.* 2006; Hoogland & Hofman 1993). The latest Amerindian site, Kelbey's Ridge 2, dates to the fourteenth century and demonstrates cultural affiliations with the Taíno of the Greater Antilles (Hoogland & Hofman 1993). These two sites, in particular, reflect the unique archaeology of the island that makes research so vital to conduct. Excavations on Amerindian sites all over the island have established that groups settled on Saba, whether permanently or intermittently, for a period spanning over 3000 years, with important political and societal changes occurring within the Amerindian communities in the centuries before colonisation (Wilson 2007). The successive series of complex European colonisations occurred between the fifteenth and seventeenth centuries (Grenfell Price 1934), permanently changing the face of Saba. First sighted by Christopher Columbus, the island initially fell under Spanish rule, although there is no evidence of Spanish colonisation (Johnson 1979). To date, there is no evidence of contact between the Amerindians and European settlers. Albeit, with the exception of a statement by a Frenchman, Guillaume Coppier, in 1645, who documents finding indigenous inhabitants living on the island (Johnson 1979).

The extensive colonial contact and settlement (Crane 1971:28; Hartog 1975:15; Johnson 1979) has had significant influence upon Saba and today can be seen reflected in the character of the community. The Amerindian history is, as a result, at risk of being over-shadowed by the European history. A parallel example of this can be seen on the island of Bonaire, in the southern Caribbean, where a development of contemporary cultural trends is discernible from a study conducted on the island in 1990 (Haviser 1995), as well as a diminishing knowledge of the Amerindian past. Research identified a shift from a personal identification with the Amerindian heritage to a generally romanticised view of Amerindian identity and the utilisation of it by the modern population, particularly the younger generations, as a symbol for collective representation. However, the study also determined that an overall appreciation of the Amerindian identity and heritage on the island continued to exist, ensuring the preservation of Amerindian cultural traditions. On the island of Saba the concern that knowledge of its Amerindian history will be lost can be mitigated by recent archaeological research on the island (Hofman *et al.* 2006; Hofman & Hoogland 2003), which has the potential of bringing the Amerindian history back into the minds of the island's contemporary community, visitors and the wider public. This, in conjunction with museum work, has the ability to engage the Saban community with its heritage and allow it to explore further aspects of their identity.

The Saban community and the interview sample

Today the population of Saba is quite heterogeneous and, consequently, museum and community engagement initiatives have a wide variety of needs to meet. Since 2010, which saw the dissolution of the constitutional entity of the Netherlands Antilles, Saba is a special municipality of the (European) Netherlands (Oostindie 2010:24). The current population is 1927 people, however, there are no exact statistics on ethnicities (Saba Census Office, pers. commun. 2013). From personal observations and communication with local community members it is apparent that a large part of the population is made up of descendants of past European immigrants, with many having ancestral roots in England, Scotland, the Jersey Islands, and the Netherlands, to name just a few territories. A substantial portion of the population is made up of individuals from other islands in the West Indies such as St. Vincent and the Dominican Republic, as well as from the other Dutch Caribbean islands in the region such as Aruba, Curaçao and St. Maarten (Martin). Furthermore, there are Carib-born people from Dominica, Sabans of African descent and many individuals from a number of other countries, including Colombia and Puerto Rico. However, it seems that there are no community members with ancestral links to the Amerindians of Saba.

Primary field work within the local community, which consisted of first-hand observation and interview-based research, was conducted on the island in January 2013. The interviews were largely concerned with questions on whether the community members desired increased community involvement with museums and archaeology, as well as with their interest in the island's history. In total, 34 interviews were conducted with local community members. The sample of

interviewees included Sabans of African descent although the majority of the interviewees were white, middle-aged community members with ancestral links to the European group of the colonial period. Local residents with a variety of backgrounds were interviewed, including individuals from the Museum Board of Saba, present and former island politicians, staff of the local secondary school, those who worked in local shops and businesses, retired community members, students, and those who had recently moved into Saba. The end sample, however, cannot be said to be fully representative of the community at large due to time constraints. Due to privacy purposes, the interviewees are not being cited directly. When an individual is mentioned directly, then he/she is referred to as Local 1-29, Non-local Resident 1-2 and Politician 1-3.

Museum initiatives and community engagement on the island of Saba

At present, there is one museum on the island of Saba, the Harry L. Johnson Museum. This is located in Windwardside, the town that attracts most tourists. It is housed in a traditional Saban cottage and the interior reconstructs the living quarters of Saban families in the colonial past. The museum is managed on a daily basis by one member of staff from the local community. There are currently no volunteer, community engagement or educational outreach programs associated with the museum, although this is likely due to its small size. Nevertheless, a variety of other forms of community engagement and educational outreach initiatives do exist on Saba that are not connected to the museum. An Island Commissioner gives talks and artefact handling sessions at the local schools about the history of Saba. Various musical and other cultural events take place at the Eugenius Johnson Centre in Windwardside and Carnival takes place on a yearly basis, which sees the local community coming together to celebrate their culture and heritage. In addition, there is another annual event, Sea and Learn, which sees the island playing host to a variety of experts from abroad that provide lectures and activities on a diverse range of topics concerning the environment. An incredibly successful community engagement project is the Saba Archaeological Center (SABARC), which runs an archaeological youth group that goes out on a weekly basis to take part in excavations and archaeological activities across the island. On-going archaeological research by a team from the Caribbean Research Group of Leiden University, the Netherlands, has been taking place on the island for over twenty years. Furthermore, initiatives for the development of museum projects have also been in process by the team over this time and continue to be implemented today (Professor Corinne L. Hofman, pers. commun. February 2013).

In 1989 Eldert Overzee, an architect and friend of the team members, produced the first architectural plans for an extension of the Harry L. Johnson Museum, that would house the archaeological finds from the Leiden excavations. Later, in 1994, a large museum complex was planned in conjunction with Projectburo Meeter, a museological consultancy company, that would again be located on the grounds of the current museum. This project would have offered a variety of community engagement initiatives that, if implemented today, could still be incredibly

successful. The design plans describe a designated area for demonstrations of Saban handicrafts by local groups such as traditional lace-work, boat manufacture, rope making, and basketry. These traditional products would be sold in the museum shop. Evening events were also suggested in the plans that would include traditional Saban music and food. Other forms of community engagement would include the showing of films on Saban history, slide lectures and the reciting of oral histories by older generations. In addition, plans included the development of a volunteer program and educational heritage programs for primary school children, which would encourage children to assist with demonstrations and take part in role plays of Saba's history. A key aim of the complex was to improve the understanding of Saban identity by the younger generations in particular, who are in danger of losing the link with their Saban past. Although these museum projects were not realized, the ideas within them remain useful if further initiatives were to be implemented today. Smaller projects by the team of Leiden University and the Saban government still continue, such as a small exhibition focusing on the Amerindian history of Saba currently on display in the Government Building. At present, however, there are still relatively few forms of projects that engage the local Saban community with their history and heritage. On the other hand, those that do exist, such as SABARC and public lectures, are successful, which is encouraging if further community engagement projects were to be initiated in the future.

Primary research into community engagement

From the interview process it was possible to detect some general trends concerning the Saban community's opinions on increasing community engagement. Firstly, the current absence of much community engagement or participation in cultural and heritage activities does not mean that there is no support for them. There was strong universal enthusiasm for increased community involvement among the interviewees and a general agreement that it could expand knowledge about their history, ancestors and island. Secondly, it was visible that a significant interest in the history of Saba was held by the majority of individuals, although to varying degrees. Most found relevance in both periods, the colonial and the Amerindian, with more often than not wanting to know more about the island's history. It was encouraging to come across eagerness and interest among the local community, which is positive for the initiation of any future museum or community engagement projects.

It was evident that at least a general awareness of the Amerindian history existed, with a small minority holding extensive knowledge of the period. Knowledge of the colonial history, however, was always greater. This is due to far more literature existing on this period (Crane 1971; Hartog 1975; Johnson 1979), it being displayed more extensively on the island, it being the more recent history, and many of those interviewed having ancestral connections with it. However, it was widely acknowledged that the younger generations on Saba, in particular, have limited knowledge and awareness of the Amerindian history. As such, the vast majority of interviewees encouraged increasing community engagement with the Saban youth. It is schoolchildren that should be the priority concerning the teaching of the

Amerindian history and they are the target group that archaeology, museums and engagement projects should focus on. It was often stated in interviews conducted with former students and former school staff that there is nothing taught about the Saban Amerindian history specifically within the curriculum and it is only the Caribbean in general that is covered. Furthermore, there was much enthusiasm for the entire Saban history, the Amerindian and the colonial, to be taught in schools. Museum and archaeology engagement projects could then enhance this through practical activities. Indeed, youth community engagement already exists to some degree on Saba. However, if educational initiatives could be increased, then this could be the first step in increasing community participation throughout the rest of the society.

At present the main method of raising awareness of the Amerindian history is through the archaeological excavations by Leiden University. Considering that the local consciousness of the period has risen as a result of the excavations, this forms another reason to build on this interest through community engagement projects. There is currently participation in excavations through the SABARC Foundation and a few adult community members who volunteer in the excavation of sites on irregular occasions. Considering the success of SABARC, public archaeology days or further participation with the archaeology on Saba could be a successful method of engaging the community with its history. One individual made the point that he needs to be able to visualise the past as otherwise he feels disconnected from it; by seeing excavations in process or taking part in them, this could be achieved.

Moreover, if management of sites could be given to local community members, as seen on St. Vincent (Lewis 2011), this would also serve in providing the community members with a larger stake in the heritage of their island and increase knowledge, awareness and interest. Local Sabans have brought important sites to the attention of archaeologists, such as the discovery of Plum Piece by Local 13. Furthermore, some interviewees held significant knowledge on the location of sites and were able to identify artefacts, with many having their own collections that they had accumulated over the years. Considering that residents can provide information on sites, increased participation with archaeology would therefore be of extreme benefit to both the local community and archaeologists.

Another specific method of increasing community engagement, identified through the interview process, may be found in the recording of oral histories. This would be particularly appropriate regarding the colonial and recent history of the island, as many from the older generations hold a great deal of knowledge on these periods, which could be passed on. It would be recommendable to engage the community with this method as soon as possible, especially since Politician 3 stated that the Caribbean, in general, has a very rich oral history that is vanishing quite fast. If the stories told by elder community members are not recorded, then they are in danger of dying out completely. The benefits of incorporating an oral history archive and a personal reminiscence photographic archive can be seen, for instance, in the West Belfast Living History Museum, which focuses on telling the personal experiences and stories of the area (Crooke 2006:133). Although this may deal specifically with a conflicted history, the concept of enabling communities to tell their own stories would prove a worthwhile project on Saba. The incorporation

of oral histories into museum projects, as suggested by Projectburo Meeter, may encourage the local community to feel part of museum work and, moreover, make it of relevance to its members. It would be a means of adding another dimension to museum displays, as visitors would hear stories told by their neighbours that they could identify and relate to, hence increasing the significance of exhibitions. In addition, this could appeal to visitors to the island, providing a unique opportunity to learn more about the local community. A further extension of this could be to increase involvement of community members with museum work itself, with the construction and creation of exhibitions or, as suggested by one interviewee, with local residents being present at an exhibition to talk and communicate with visitors, telling their own stories. This can be seen in practice at the Museu da Maré in Rio de Janeiro, where locals hold mediatory positions in the museum between the content and visitors (dos Santos 2012:28).

Primary research on Saban community identity

Community identity on Saba is a complex construct, with multiple factors contributing to it. Firstly, there are mixed sentiments towards the past, with interviewees' connections to Saba's history varying extensively. The colonial history plays a far greater role than Amerindian history and the majority of interviewees did not feel a connection with the latter period. It is evident that people relate to the colonial past to a greater extent. This is of course to be expected considering there are no ancestral links to the period within the community, there are limited opportunities to learn about the history and emphasis is placed on the more recent, colonial past of the island within the community and the museum. However, there were very few individuals who felt an incredibly strong connection with either period, although there were of course exceptions to this, with a small minority even feeling a connection with the Amerindian history. One politician commented that in recent years, partly due to becoming a special municipality and the Dutch government having a bigger presence in the BES Islands (Bonaire, St. Eustatius and Saba), many local residents are asking what they know about themselves and their island, not only in regards to the European history. If involvement with museum projects were to be increased, the opportunity could be opened up for individuals to explore all aspects of their island's history and investigate what it means to them, whatever their connection with it may be. The interview process established varying connections to Saban history, with no concrete evidence emerging that could allow one to say that Saban history forms part of the community's identity as a whole. For that, therefore, further research would be desirable.

Secondly, Saban identity, although hard to pin down, seems to be largely island related. For many Caribbean people their unique identities are derived from an association with the environment and it is the land that has nurtured these identities (Premdas 1996:13). This could be said in the case of Saba, where an enormous feeling of pride in their island, in being Saban, was divulged from the interview process and from all members of the community, regardless of age, occupation or ethnicity. Many believe that it is vital to know where one comes from, and community members state that it is important to know 'our' history, as

it is 'our' island. When interviewees were asked what they felt made their island and its history so unique, everyone provided a different response, leading one to feel that a distinct love for the land, its geography and its environment existed. This suggests that Saban community members hold a strong connection to the place where they live, which is something that can perhaps not always be said for communities in general. Furthermore, because of this, many want to know the history of where they live and where they come from, to know their island. According to Oostindie (2010:117), Caribbean identities are often island related and it transpires that Saba is not an exception to this statement.

Moreover, aspects of the community's identity could also come from unique parts of its history, such as the long reputation of seafaring activities on Saba, documented by Crane (1971), and its strong connection to the sea (Johnson 1979) in the past and today. Also, the community's struggle for survival on this island of extremes in the past and the difficulties of living, as mentioned by some of those interviewed, could have contributed to its identity. Technological advancement was a gradual and late development, as stated by one politician, and this combined with its unique, volcanic terrain and small size would have required the community to work together for the common good. Considering the above reasons and the small population size, it may be said that a common community identity can be found in just being Saban. This should be differentiated from whether individuals feel that the long occupational history of their island forms part of their identity. It seems that it is the island of Saba itself, its geography, culture and way of life that formed a historically and culturally specific Saban identity. Considering that the ties to the territory are strong and determining, this could encourage increased community engagement with its heritage. Community engagement and museum projects would provide opportunities for not only history and archaeology, but other elements of Saban identity as well, to be explored further. Through the display of all these aspects within museum projects and an increase in community engagement, the community's love for the island could be asserted, stronger connections with its culture, history and heritage could be established, and an affirmation of the pride of the Sabans in their long and difficult history could be made.

Conclusion

What emerges from the museum work and archaeological research conducted on Saba over the last twenty years by Leiden University and the research conducted in January 2013, is the significant value of displaying the history of the island for the local community members themselves. The love for their land and their interest in its history, which emerged from the interviews, clearly exists in strength, meaning that there appears to be huge support for any initiatives regarding Saba's heritage. Furthermore, the Saban identity transpires to be an incredibly unique one, partially because of its Caribbean dynamics and partially because of specific factors pertaining to Saba, which deserve to be represented for visitors to the island and the worldwide community.

At present there exists great potential for the current museum, exhibitions and community engagement projects to be built upon. If further community engagement projects were to be initiated, then the possibility for the community to explore, contest and interpret its own history would be increased, providing its members with the opportunity to assert the pride they hold in their island, as well as ensuring that they maintain a significant stake in their heritage. Further museum work could raise awareness of the Amerindian history, which is in danger of being forgotten. Moreover, it could allow residents to explore the colonial and recent history further, i.e. periods of the island's history that are of extreme relevance for many. Through the initiation of community projects a continuity between all periods of Saba's history could be established, raising awareness of the long history of the island and increasing the relevance and significance of periods that are presently overshadowed. Community engagement projects would therefore take a reflexive approach and at the same time allow individuals to trace how they came to live the way they do today.

The recent focus on a stronger museum-community relationship within the museum world has seen significant weight being placed on initiating multi-vocal, bottom-up approaches in museum work and the equalising of authority for all stakeholders in a museum's collection. The small though unique island of Saba presents a strong case for the benefits of such approaches being taken. Allowing the members of the local Saban community to express their own interpretations of the island's history and their own representations of its identity would provide them with a louder voice, enabling them to assert their place and their history within the worldwide community.²⁹

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The Curaçao archaeological exploration group

François van der Hoeven and Fred M. Chumaceiro

Introduction³⁰

In 2008 the authors, a social geographer and an electronics engineer respectively, started going on weekly field trips to look for and record archeological sites on Curaçao. After doing this for about two years, more people joined the group, now known as the Werkgroep Archeologie Curaçao. At present it has eight members who regularly go on field trips on Thursday mornings, very often through dense bush. The other members are: Eddy Baetens, social geographer, Hetty Braat, retired civil servant, John Dohmen, astronomer, Dirk Ooms, retired marine, Michèle van Veldhoven, operation room nurse, Carel de Haseth, pharmacist and previously minister plenipotentiary of the former Netherlands Antilles. Our group calls itself the Speurneuzen ('Sleuths'). The group has its roots in the Archeology Working Group of the National Anthropological and Archeological Memory Management (NAAM), of which the authors are also members. Occasionally other members of the Working Group come along on our field trips. As others have written extensively about the prehistoric archaeology of Curaçao (e.g. da Camara *et al.* 1991; Havisier 1987), we tend to concentrate on the historic period. However, we do record the GPS coordinates of known prehistoric sites and new ones when we find them.

Methods

We select the areas to survey in no particular order. Usually one of us comes with a proposal that is almost always accepted. Sometimes these proposals are preceded by a lot of research, but usually we just pick a place we think could be interesting. Every field trip does have a main objective, mostly a ruin that is either on a map or that we heard of by hearsay or simply think could be there. Almost every time we find something we did not know of like a dam, a house, or a natural feature such as a cave, or a beautiful tree. After every survey the first author writes an informal

30 Curaçao, February 12, 2014.

report and sends it by email to the group members, the NAAM Archeology Working Group, and interested friends. Over 200 of these reports have already been written. Each report includes up to 25 photos taken by various group members and a map with our GPS track and the location of our finds. To make these maps, the second author uses Global Mapper. This software is fully compatible with the files used by the Garmin GPS and converts map projections easily. Using this, it has been possible to import and geo-reference several topographic maps of Curaçao ranging from 1836 to the present. These maps can also be exported in the formats required for display on the GPS and Google Earth. Of these topographic maps, the Werbata map of 1911 is the one we use most often (Werbata 1911). It is the first modern map and is surprisingly accurate for its time (typically ± 25 m). Besides, it has many buildings, structures, and ruins no longer shown on younger maps. Even wattle-and-daub houses are indicated on this map.

Results

Forts and batteries

Apart from the few well known large forts on the island, there are many lesser known or totally forgotten smaller fortifications (Figure 9.1). These can be divided into two groups: the older ones that date back to the 18th and 19th centuries and the newer ones built during the Second World War by the Dutch and Americans. As a follow up to our work, the government of Curaçao decided to protect most of the newly found 18th-century forts and batteries as well as those dating back to the Second World War. For this, we worked side by side with Gerda Gehlen and

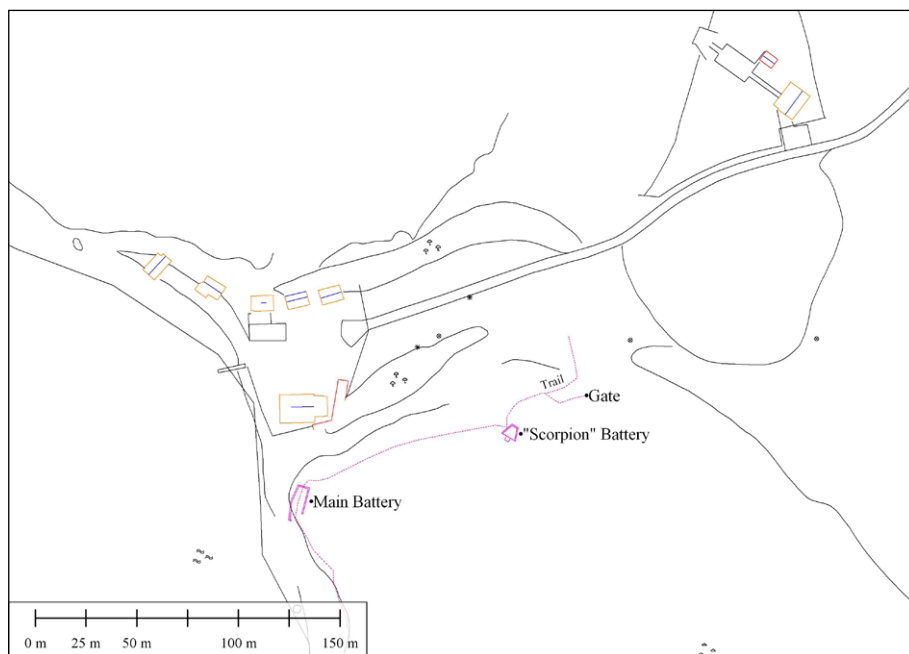


Figure 9.1: Drawing of Fort Vaersenbaai (Drawn by Fred M. Chumaceiro on a map of the area).

Rudsel Vanblarcum of the Monument Bureau and archaeologist Claudia Kraan of the NAAM in describing these forts and batteries. The list was endorsed by the island government of Curaçao a few days before the island became an autonomous state within the Kingdom of the Netherlands.

Old Fortifications

During our first year, it became clear to us that there were more forts than we initially thought existed on Curaçao. The first one was found by accident. We were looking for a small building at Boka Santu Pretu (Playa Chikitu) at Santa Krus that appeared on the 1:25,000 topographic map of 1962 (Cadastral Suvery Department 1962). We did not find it, but encountered instead the foundations of an old battery that once had three cannon. There was not much left, but the bottom parts of the gun embrasures were clearly visible, as well as the foundations of a few walls. Since there was not much rubble in the area we assumed that the battery had been dismantled and the building material recycled. This seems to have been common practice with many old structures.

A few months later the first author went looking for and discovered what he believed to be Fort Collenburg while kayaking in Fuik Bay. He had seen a small map by S. Geerts of 1754 in *Monumenten van Curaçao* by Ozinga (1959:XLIX, Pl. 79) of a structure that looked like this fort, but the location did not correspond to what Hartog (1997:93) wrote on it. A search in the National Archives yielded a high-resolution version of the same map as well as several others (Geerts 1754). We could confirm that it was Fort Collenburg after visiting the site and clearing away some of the bush that covers it. Even though the mining company has built a small crane on top of it, we are quite sure it is Fort Collenburg. The shape of the battery wall and other buildings look very much like the structures shown on the old maps. The location is also very close to that suggested by these maps. We were enthusiastic about our finds and the first author found more old maps in the National Archives. Those by D. Creefts of 1784 and 1785 were especially interesting (Creefts 1784-85). It turned out that almost every bay had at least one battery. We then went looking for them and to our amazement found just about all except for the batteries in coastal areas which have seen much recent development. We found at least 12 forts or batteries that were unknown or thought to have disappeared. Some of the more notable finds include the Knip and Sint Kruis forts and batteries. In addition to the central fort at Knip, we also found two smaller batteries at the *Boven baai* (Knipbaai) and one at the *Beneden baai* (Playa Abou). Only the house near the central battery was known. The battery itself was in relatively good condition and well hidden in an almost impenetrable *mondi* (bush) about 25 m from the house. At Boka Santa Krus we found two unknown batteries, one on either side of the bay (Figure 9.2). Only the main fort was known. At Cas Abou we found Batterij Engelenberg, with walls that are still rather high and a powder magazine. There was a hiking trail right through it, yet it was not generally known that it was a battery. De Ruyters Uytiky at Caracasbaai was also an interesting find. Some of the original walls can still be seen even though one of the guns of the Second World War battery at Caracasbaai was placed right on top

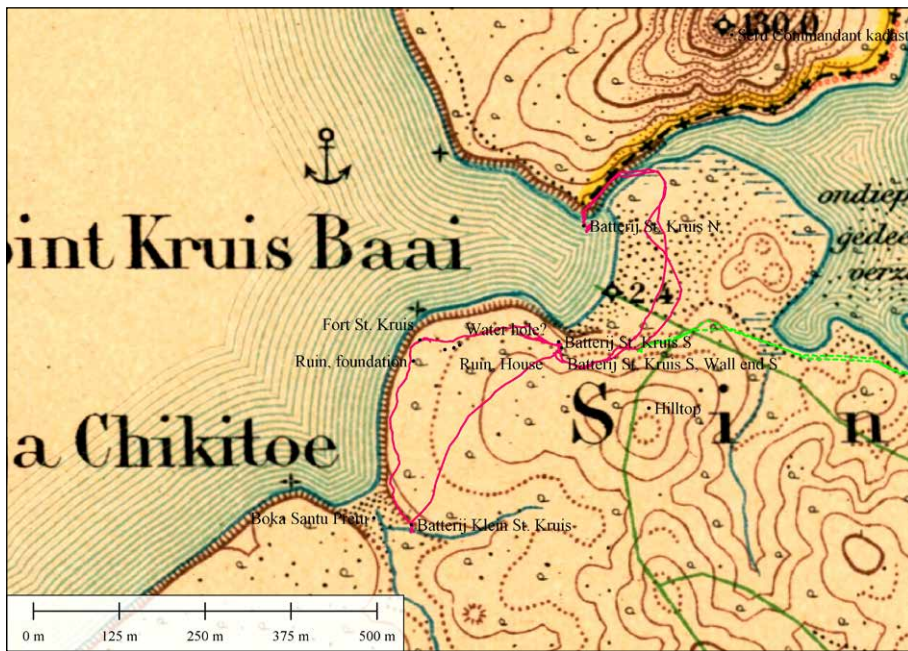


Figure 9.2: Track on Sint Kruis map (After Werbata 1911).

of it. We also found remains of smaller batteries at Westpuntbaai, Playa Hundu, Porto Marie, and possibly Lagun, formerly called Crabbebaai. To the surprise of many people we showed that what was thought to be a fort at Jan Thiel was nothing more than a stone crusher. Fort van Willem Meyer at Punta Kabayero right at the entrance of Spanish Water seems to have disappeared without a trace. We went looking for it several times and could not find it. We suspect that it was washed away by the sea during hurricanes since it was so close to the shore. Fort Waakzaamheid was built in 1803. It was decommissioned and partially demolished in 1826. Because what was left looked like a box, the local population gave it the nickname ‘Matchbox’ (Hartog 1997). The interior was thought to have been empty, but if so, who then filled it up? The Stichting Monumentenzorg (‘Foundation for Monument Preservation’) bought the fort in the fifties and allowed a restaurant to be built on top of it. Recently the restaurant was demolished and we had a chance to investigate the site. It appeared that when the restaurant was built, tiles were laid over an old limestone floor. Michèle van Veldhoven noticed a hole in one of the outside walls that looked like the overflow of a cistern. The hole became very small at the end, but it looked as if there was a chamber behind it. To see what was inside, Michèle and the second author attached a small webcam and light at the end of a long pole and passed it through the hole. They recorded videos and stills on a laptop computer and we could clearly see that it was indeed a cistern with a vaulted ceiling. There appeared to be a square opening in the ceiling that was later covered by the new tile floor. Monumentenzorg was impressed with what we found and allowed us to break the tiles to find the opening. It turned out to be rather easy to find and we went in. The cistern looks old, but the ceiling appears to have been

restored not too long ago. Now that we found the cistern, there is every indication that the interior of the fort was always filled. We got permission to break some more tiles to inspect the old floor under it.

Second World War fortifications

To our surprise little is known nowadays about the exact location of the smaller fortifications and observation posts of the Second World War. We found some of them that were unknown by looking at logical places, for example, an observation post on a hill and a small gun foundation along the coast in the vicinity of Bullenbaai. Rediscovering large forgotten structures like the munition bunkers and gun foundations at Bullenbaai was also much fun. We hope that by making reports with the exact locations and drawings they will not be forgotten again. We helped Allan van der Ree, security chief at the Blue Bay Curaçao Golf & Beach Resort up to 2013, to make an inventory of the remains of the American Coastal Battery. Allan is the Chairman of Foundation Battle Station Blaauw, Force Curaçao 1942. After a lot of hard work by the Foundation, the Monument Bureau and our group, several structures have been saved from destruction and are now formally protected. These structures form the core of the Second World War Museum at Blaauw which is managed by Allan van der Ree and his Foundation.

Well-known Second World War fortifications were also revisited by us. The largest of these is the Dutch coastal battery at Steenrijk (Kustbatterij Steenrijk) on the east side of Willemstad. Fortunately, the command bunker and one of the three gun foundations were partially saved when a public housing project was built here. The barracks and two large ammunition bunkers are on the northside of the hill beyond the housing project. The bunkers are in rather good condition. Their heavy doors still work.

At Caracasbaai we rediscovered the Dutch Second World War battery, built on top of the ruins of the 18th-century battery De Ruyters Uytkyk that was thought to have been lost. On Ser'i Domi, too, we found structures built by the Americans in the Second World War on the foundations of the 19th-century Fort de Wreker that was demolished in 1826 and also considered lost. We were told that Fort Waakzaamheid overlooking Otrobanda (the west side of Willemstad) also functioned in the Second World War as an observation post and gun platform.

Cassard's Cove

The French Admiral Jacques Cassard who also functioned as a privateer took Curaçao in 1713 and held it for ransom until a large sum was paid. He had to evade the Dutch troops waiting for him and decided to land in an unprotected cove on the western part of the island. His landing there became a legend. He found a spot on the coast that consists mainly of sheer cliffs. That spot was commonly referred to as the *Gat van Cassard* ('Cassard's Cove'). The problem was that no one seems to remember where it was. All that was generally known is that it was somewhere on Pos Spaño. We did find the *Hoek van Cassard* ('Cassard's Corner') and the *Bogt van Cassard* ('Cassard's Bend') on the 1784 map by D. Creefths (Creefths 1784).

Although there is a note on the map that Cassard landed at the *Hoek van Cassard*, the map is insufficiently clear to find the exact location. The *Bogt van Cassard* is more to the south and we suspect that the fleet was anchored there.

Director J. Rodier (1774) made an inventory list of all the forts and batteries of Curaçao in 1774. Helma Maduro Molhuijsen, who had a copy of this report, transcribed it to modern Dutch so that it was easier to read. Although no map was given, it describes in a detailed way the location where Cassard landed. Based on this description, we went looking for it and found a spot at Pos Spaño that fits the description perfectly. It is also well hidden from the batteries in the area. The landing place appears to be the small cove right at the plantation border, just before Boka Santu Pretu. Thanks to Helma's work we also learned a lot more about the forts and batteries that Rodier describes and could inspect them much easier.

Plantations

Curaçao had about 140 plantations and plantation houses in the 18th century. About 70 plantation houses ('Great Houses') are still in use and about 23 are in ruins but still with parts of their roofs. The rest are nothing more than a foundation with a few walls or have completely disappeared. We try to visit all the ruins and search for the ones that have been lost. In doing this, we noticed that there is quite some confusion about the old plantation names. A nice example is Ravenstein, also known as Ravenslot (both meaning 'Raven's Castle') that is most probably derived from Raven's Lot. We were able to rediscover several foundations of plantation houses that were thought to have disappeared completely. Wacao, Rust en Pad, Harmonie, Meiberg, Spijt, and an old unknown plantation house at Choloma are a few examples.

Blauw

Allan van der Ree showed us the foundations of an old plantation house he thought was Sint Elisabeth and the foundations of what could be the stone slave quarters mentioned in an old document he found. These intrigued us so much that we did some surface excavations under the supervision of archaeologist Claudia Kraan of the NAAM. While following the foundations, the 'slave house' grew bigger and bigger and we began to think that it could be another plantation house. Could it be that this is Sint Elisabeth and the other Bleirust, as roughly indicated on the Hulst van Keulen map of 1836 (Keulen 1836)? More work is needed to reach a conclusion.

Wechi

We visited it when it was totally neglected and overgrown. Apart from the well known small plantation house and *magazina* (papiamentu for 'big storage building'), we were especially interested in the older *magazina* that was hidden in the bush. We could see it on Google Earth and Werbata. After taking its geographical position, we went looking for it with the GPS in the very dense bush. Only when we were right in front of it did we see it. This big building was part of an older plantation.

The story is that the plantation house burnt down and was later demolished. We looked for the foundations, but could not find them in the dense bush. We did find some small house sites that were on the Werbata map. There used to be a small village next to the old *magazina*. The entire area has a high archaeological value.

A year later two big bulldozers started scraping away everything except the buildings that were still standing. The Government Housing Foundation (FKP) had bought the plantation and decided to ‘clean’ it. It became a big issue and got lots of publicity, but protests did not help. All archaeological information was lost. After the bulldozers had finished, we think we did find some of the remaining foundations of the old plantation house, but it was damaged beyond recognition.

Paradera

The Werbata map shows *Ruine Paradera*. This was one of the first ruins we found by GPS in very dense bush. It looked more like a *magazina* with threshing floor than a plantation house. Even though we searched this area many times, we have not yet found the plantation house, if there was one. We had a similar situation at Seru Basora (Broom Hill) on the present plantation Porto Marie, where there is an old *magazina* with threshing floor, but no plantation house nearby.

Hato

Hato was one of the important water plantations and has two springs. The one closest to the plantation house is next to a very old building with arched ceilings. The three compartments look like prison cells, but for whom? The second spring a little more to the east feeds a large concrete basin and was used until recently for agriculture. There is also a strange industrial building of the Government Water Works (LWV) dating back to the middle of the 20th century. It still has some machinery in it. Friends of the National Archives, Helma Maduro-Molhuijsen and Josette Vos, helped us by determining the function of the building. It was the first water filtration plant for the airport and the only one of its kind on Curaçao. It was forgotten by the people who should have known about it: the Airport Management and government protecting agencies like the Monuments Bureau. By notifying these agencies about it we hope that it will not fall victim to airport expansion projects. There is also a small cemetery on the plantation. Teenstra (1836:102) writes that one of the graves had a wooden plaque stating that it was of Kornelis Gerard Evertsz, Captain Colonel at sea and Commander in the harbor of Curaçao who died on January 1, 1807. This was during the invasion of the English. His parents are also buried here (Archieven van Curaçao, Aruba en Bonaire: 1707-1828)

Cylindrical pillars

The well known *slavenpaal* (‘slave pillar’) at Zorgvlied was generally believed to have been used as a whipping post for slaves. An alternative theory was that it could have been used as a lighthouse. There are similar pillars at Fuik and on Seru Basora at Porto Marie. One of our readers sent us pictures of one that used to

be at Brievengat. Unfortunately, it was demolished by bulldozers in 2008. These pillars were not connected to buildings, but were all in the vicinity of one and near the top of a small hill. We decided to study them more closely to see if we could determine their function. We found clear indications that at one point they all had wooden beams on top in various configurations. Many theories came up, but after seeing a drawing in Ozinga (1959:256, Fig. 85) and an old picture of the bell tower at the plantation house of San Nikolas, we had reason to believe that they were all bell towers. A visit at San Nikolas strengthened our belief. Carel de Haseth went to the one at Fuik with the plantation owner. According to the latter, it had a bell on it to signal the workers in the field. Carel also found a picture taken in 1890 on which this pillar does not appear (Soubllette, 'Landhuis Fuitz' [sic], Archief Koninklijk Instituut voor de Tropen, Amsterdam 1890). This was 27 years after slavery was abolished on Curaçao. Thanks to our readers we receive information regularly that helps us to widen our understanding of the history of our island.

Graves

The Werbata map shows the location of graves and small cemeteries. We were able to find many of them, and confirm that others have disappeared. One of our most interesting rediscoveries was the De Haseth cemetery at Rif Sint Marie. It dates to just after Werbata and, as a result, it is not on this map. All written descriptions we could find were unclear. After intensive searching we found the graves next to a small cylindrical pillar that used to be a birdbath.

One of our precursors, Mr. Visman, who did a lot of surveying on Curaçao, made a map of a slave graveyard near Daaibooibaai. We most probably found it, but only when an archaeologist excavates it, we can be sure.

Indigo works

Indigo was cultivated on several plantations in the 17th century, but was abandoned early in the 18th century. As a result, it is not surprising that there are so few known indigo works left. A few years ago, Andre Rancuret, historian, and the first author went to all the indigo plantations that were known in order to photograph them and document their dimensions. This resulted in a NAAM article that appeared in the newspapers on Curaçao and Sint Maarten (St. Martin). Our group discovered the remains of indigo works at Ascención, a well preserved set at San Sebastian and two beautiful indigo works at Malpais (Mount Pleasant). They are close to each other and each has two basins. We also found the remains of what could possibly have been indigo works at San Nikolas plantation, but this requires further study.

Werbata's triangulation points

Werbata used 45 triangulation points in 1909 to make his map. These were distributed all over the island. Quite often they are on hill tops with a beautiful view of the surroundings. In later years, when the surveyors of the Land Registry Office (Kadaster) made new maps, they often erected new triangulation points right on top of the ones of Werbata. In some cases the old ones can still be seen.

Fortunately there are a few of Werbata's triangulation points that have not been reused and are still in their original state and in good condition. We try to record them all.

The ruin on the topographic map of 1962

The first topographic map after Werbata was made by the Land Registry Office with the help of aerial photography in the fifties. There is a ruin on the 1:25,000 topographic map of 1962 at Pos Spaño that does not appear on any other map (Cadastral Survey Department 1962). We decided to investigate it. We were unable to find any ruins at the location indicated, but we found an enormous limestone rock that had more or less straight sides and its footprint was like a rectangle of the proper size. Could it be that the rock looked so much like a ruin on the aerial photographs that it was drawn as such?

Mines

At the end of the 19th century there were mining operations all over the island. Except for Klein Curaçao and the well known phosphate mines on the Tafelberg ('Table Mountain') at Newport on the Santa Barbara plantation, none were profitable and closed within a few years. Most were nothing more than a few exploratory mine shafts or small surface excavations.

Newtown

The buildings of John Godden's manganese mining operation at Newtown (Zjeremi) and the two rubble heaps at the foot of Seru Francisco Jobo on the Zeven Bergen side are well known. Less known are the mines themselves. They were reported by some to have collapsed and their exact location was forgotten. The second author and his sister Rita Mendes Flohr rediscovered two mineshafts near the top of the hill in 2006 and showed them to the group. One mineshaft goes in horizontally for 30 m. The entrance of the other one is closed with rubble, presumably put there by the miners themselves after the operation was abandoned. It will be interesting to open this shaft and see what is inside. There are many legends about it. Since the infrastructure at Newtown looks like it was intended for a much larger operation, we searched in the surrounding hills for more mines. Thus far we did not find any, but recovered evidence of shallow exploratory surface excavations.

Sint Hyronimus

At Sint Hyronimus we found three shallow excavations. We were told by the landowner that they were presumably for manganese. There is also the grave monument of William Foot, one of the miners working for John Godden. There is also an area that shows evidence of surface mining for phosphate on a limestone plateau near the northwest border with Savonet.

Ascención

In addition to the large surface excavation and deep vertical shaft On Ser'I Mainshi, we found at least five more vertical shafts ranging from 1 m to approximately 6 m. Here, too, there was some infrastructure built at the time of the mining operations: the ruin of a building and what was probably a railway at one time were encountered.

Ronde Klip

There are three horizontal mineshafts and a small vertical shaft on the hill. We also found a vertical shaft on a plateau 1 km to the north. There is evidence of some surface mining on that same plateau. In addition, two ruins of small stone buildings, probably used to store explosives, were found.

Rif Sint Marie

We found a horizontal mineshaft on the north face of the ridge that runs south of the bay of Sint Marie (Saliña Sint Marie) east of Seru Rinkon. This was presumably an attempt to find phosphate.

Mount Pleasant

The Werbata map shows an old mine at the foot of Seru Sami. We found evidence of shallow surface excavations here. Some rocks had traces of copper (malachite).

Caves

We found evidence of mining in many of the caves on Curaçao. This was mostly for bat guano, probably used primarily as fertilizer. Another possibility is that it was used to make gunpowder, although we have no evidence of this. In the cave of Noordkant there are still some mining tools.

The fairy-tale houses at Seru Kuater Hanker

We end this (incomplete) compilation of our work with a light-hearted mystery. From a considerable distance we spotted some Curaçao kunuku houses on top of a hill called Seru Kuater Hanker ('Hill of the Four Anchors'). These traditional wattle-and-daub houses seemed still to have their thatched roofs. This is surely exceptional. We found three abandoned houses around a square. At least two of them were restored traditional houses, the third and biggest one seems to have been built new from earth held together with a thick layer of cement plaster. All houses were heavily decorated with bottles, goat horns and potsherds. In front of the largest house there were two big decorated chairs made out of earth and cement plaster. Everything was deteriorating fast because where the plaster is broken, earth flows out of the walls. Who made these fairy-tale houses? Why were they abandoned? We don't know. It is another mystery to unravel!

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Part Three

Early Valetta Treaty applications

Archaeological assessment in compliance with the Valetta Treaty

Spanish Water, Curaçao

Menno L.P. Hoogland and Corinne L. Hofman

Introduction

The Amerindian shell deposits at Santa Barbara Plantation along the shore of Spanish Water, Curaçao, have been known for many decades. In 2008 these deposits were threatened by the construction of a so-called mixed-use resort consisting of a Hyatt Hotel, marina, golf course and villas. The area under development is located in an archaeologically rich micro-region that extends over the southeastern part of Curaçao (Figure 10.1).

Santa Barbara Estate is situated in the southeastern part of the island at the foot of a table mountain. The area is characterized by volcanic deposits, mostly basalts, and is part of the Curaçao Lava Formation. The most characteristic element of the landscape at Santa Barbara is the Spanish Water Bay, a deeply intruding salt water inlet. Spanish Water was formed during the Ice Age due to a combination of a lower eustatic sea level and the erosion of a system of valleys by rainwater. Today the vegetation consists of mangroves in the shallow parts of the lagoon up to the high tide line. On land the vegetation can be characterized as a mixed deciduous Acacia shrubland. Brazilwood, Acacia and cactus are the most common species in this xerophytic environment (Stoffers 1956:54).

In 1968 an archaeological inventory of the eastern part of Curaçao was made by the Archaeological and Anthropological Institute of the Netherlands Antilles (AAINA). The resulting data were placed in context by Jay B. Havisier in his PhD Thesis on the Amerindian cultural geography of Curaçao (1987). In the 1990s Havisier (2001:118) carried out test excavations at the site of Spanish Water (C-039) and published his preliminary conclusions including four radiocarbon dates, ranging from 3105±40 to 1965±35 BP, in 2001. The shell deposits of Spanish Water are of high archaeological value and date to both the Archaic and Ceramic Ages. The management of the development company of Santa Barbara Plantation was well aware of their responsibility for these archaeological sites.

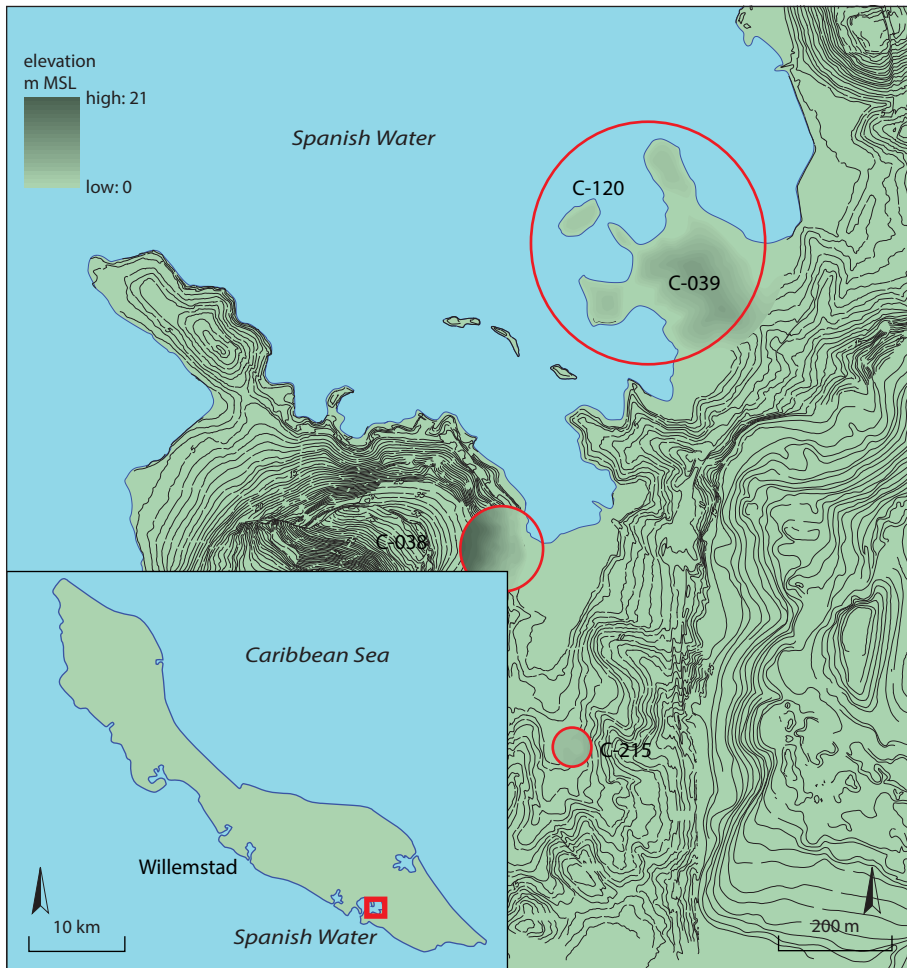


Figure 10.1: The location of the sites of Spanish Water (C-039 and C-215) and Seru Boca (SBOC-0109) on the shores of Spanish Water Bay, Curaçao.

On invitation of Santa Barbara Plantation we visited the area for the first time in the summer of 2007, mapping ten shell scatters along the shore. Half of the deposits were heavily eroded or consist of slope wash material. The interior of the area was virtually inaccessible due to dense thorny vegetation. A rough delimitation was made of a future project area. From the beginning it was clear that the construction of the golf course and the development of the area will have a serious impact on the archaeological deposits due to large-scale deforestation and landscaping. It was a precondition of the Curaçao Monuments Bureau and the National Archaeological-Anthropological Museum (NAAM) to follow the rules set down in the Quality Norm Dutch Archaeology³¹. The Curaçao stakeholders were the Monuments Bureau representing the island government as the competent authority, the NAAM as their professional consultant and Santa Barbara Plantation

31 <http://www.sikb.nl/richtlijnenenprotocollen>.



Figure 10.2: Prof. dr. Corinne Hofman explains to schoolchildren the shell exploitation at Spanish Water by Amerindian communities in the past.

as the developer. Leiden University was the executing contractor. In consultation with Santa Barbara Plantation a project outline was made for the excavation of the shell deposits. Additionally, recommendations were formulated to address the integration of unthreatened deposits in the plans for the general landscaping of the golf course. After ratification of the project outline by the Curaçao Monuments Bureau a project design was made and it was agreed to organize the undertaking as a field school for students in Caribbean archaeology of the Faculty of Archaeology, Leiden University. A prerequisite was the accessibility of the excavations for the general public and groups of schoolchildren. During the excavations about eight times guided tours were organized by members of the staff and students (Figure 10.2). A weekly visit to the field, a report of the project's progress followed by an evaluation of the applied methods and strategy by the Monuments Bureau and the National Archaeological Anthropological Memory Management (NAAM) were part of the agreement. Due to the preliminary nature of the survey results just a rough estimation of the costs could be made. The project was co-financed by Santa Barbara Plantation and the Leiden University Fund (LUF), whose initiative 'Campagne voor Leiden' has sponsored the Antillean and Aruban Heritage project initiated by the Faculty of Archaeology. In this project there was a lump sum reserved for the excavations at Spanish Water including data processing and the writing of a report.

In May and June 2008 a team of twenty students and seven supervisors and specialists from Leiden University investigated the Spanish Water site prior to the construction of the two fairways, Nos. 8 and 9, of the golf course in the development area. A proper survey of the interior of the project area required the manual removal of the dense vegetation. Seven more inland shell deposits were

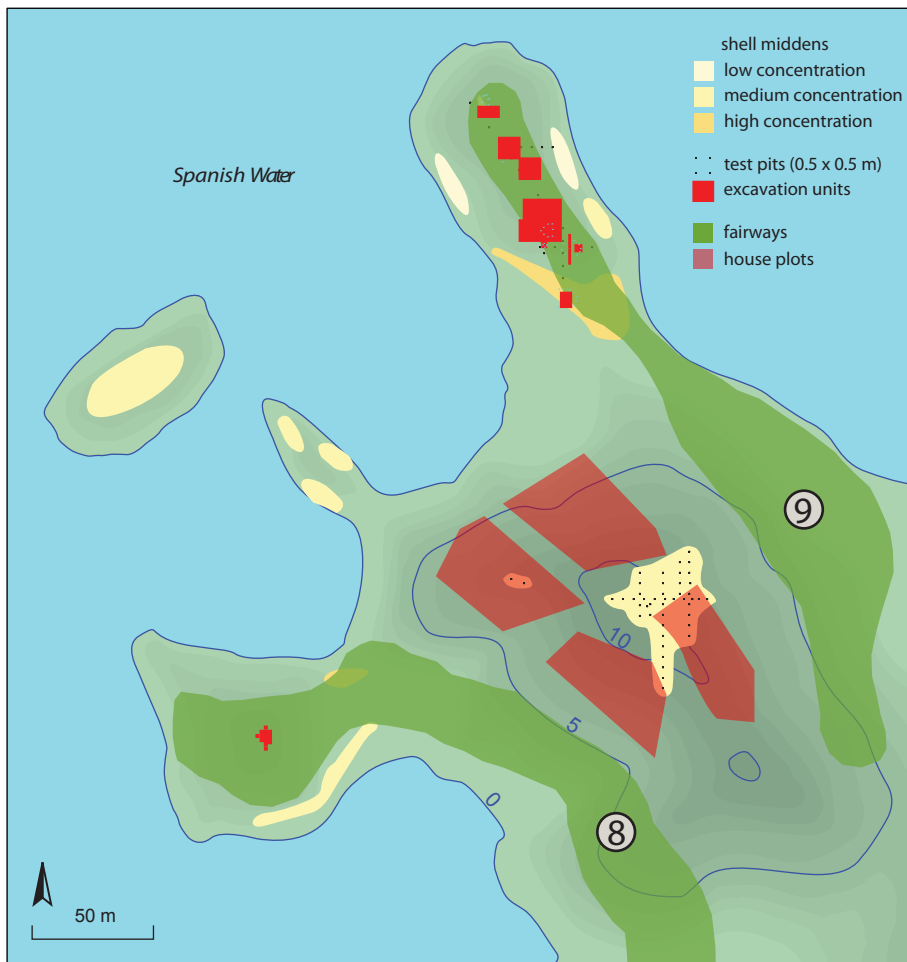


Figure 10.3: Overview of the research area at Spanish Water showing the design of Fairways 8 and 9, and the location of housing lots in relation to the archaeological deposits and excavation units.

identified next to the ten deposits already known. It could be concluded that the Spanish Water site is characterized by at least twelve discrete, more or less intact shell deposits (Figure 10.3). These deposits originally extended over an area of 0.6 km², and reflect different periods of occupation as indicated by the artefact assemblages. During the course of the excavations two more sites were discovered on the Santa Barbara Plantation (Figure 10.1). The C-215 site was recovered in the profile of a drain channel. The Seru Boca site is located in a rock shelter with rock paintings (SBOC-0109). These sites are at a distance of 600 m and 1000 m, respectively, from the site of Spanish Water (C-039). The sites at Santa Barbara can be interpreted as temporary shell collecting and processing camps. This paper presents the preliminary results of the survey and excavations at the Spanish Water sites.

Spanish Water project 2008/2009

The aim of the research at Spanish Water was to develop an understanding of the nature of the occupation, the site's stratigraphy and chronology as well as the character of the cultural remains. Furthermore, the investigations were aimed at recognizing the landscape use in the eastern part of the island by the Archaic and Ceramic Age occupants.

Fieldwork methods and strategy

At first, transect surveying was conducted in the area directly affected by the construction of the golf course. The survey revealed the pattern of the deposits in areas densely covered by cactus and acacia. Sub-surface testing included more than 100 shovel tests of 50×50 cm and revealed the depth and nature of the deposits. On the basis of this stratigraphic information fifteen excavation units varying from 1×1 m to 10×10 m were set out in seven of the deposits (Figure 10.3). Open-area excavations by means of a mechanical excavator were performed outside the shell deposits in order to search for features.

All archaeological materials were water screened using 4-mm mesh, processed and catalogued. The materials are currently stored at the depot of the NAAM, while samples and a small selection of artefacts were taken for further analysis to Leiden University. After completion of the analysis and the writing of the report all materials will be deposited at the NAAM.

The study of the physical aspects of the landscape was carried out in a chronological framework, and was made in cooperation with Dr. Peter E. Siegel of Montclair State University, NJ, USA, in the context of his regional palaeoclimatological research, along with Dr. Michael H. Field, palaeobotanist at Leiden University. For the geomorphological and palaeobotanical research two cores were recovered from the mangrove at Spanish Water. Wood specimens were collected from the archaeological deposits in order to create a reference collection for macro-remains at Leiden University.

Preliminary results

In all nine shell deposits have been entirely or partly excavated. The deposits were situated directly on the present-day surface; the ones to be found close to the shoreline were eroded and weathered. The size of the shell deposits ranges from 10 to 120 m². The excavations of the deposits comprised a surface area of 110 m² while an additional area of 480 m² has been excavated beyond the deposits. Julijan A.M. Vermeer aided in the geomorphological and stratigraphical reconstruction of the site (Hoogland et al. 2014). The deposits are interpreted as temporary shell collecting and processing camps because they consist for 99.9% of shells, mostly food remains and a large number of *Lobatus* (formerly known as *Strombus*) shell percussion tools. The remainder of the archaeological materials consists of faunal remains, stone flakes, beads and potsherds, all in very low numbers. Three shell



Figure 10.4: Archaeological features at Spanish Water: (a) shell deposit, (b) posthole, (c) natural feature, and (d) fireplace.

deposits had features, in all cases a fireplace or a cooking pit. The excavation units in the off-site areas revealed a number of soil marks, mostly interpreted as natural features, such as tree or cactus roots and a single posthole (Figure 10.4).

Faunal remains

The excavations of the deposits at the Spanish Water site revealed approximately 710 kg of shells in 106 1×1-m units. The C-215 site revealed about 46 kg in 4 m³. Malacological studies have been conducted by Dennis C. Nieweg. The zooarchaeological analysis has been carried out by Pieter Soffers in the context of his BA Thesis. The most abundant shell species are *Lobatus gigas*, *Melongena melongena*, *Cittarium pica*, *Lima scabra*, *Anadara notabilis*, *Pinctada* sp. and *Crassostrea* sp. Land snails are represented by *Cerion uva* of which many specimens are missing their tops. These have clearly been removed intentionally, but the purpose of this is uncertain. The presence of *Cerion* is limited to the refuse deposits dating from the Archaic Age. *Lobatus gigas* and *Melongena* were exploited more intensively in the Ceramic Age. Other faunal remains such as fish and landcrabs are absent in the deposits. An exception is formed by a large quantity of skeletal remains of dolphins, mostly ear bones or periotics in Unit 8. The shallow water of Spanish Water and its direct surroundings have been exploited in a year-round pattern. The exploited species except for *Melongena* currently still occur in the area.

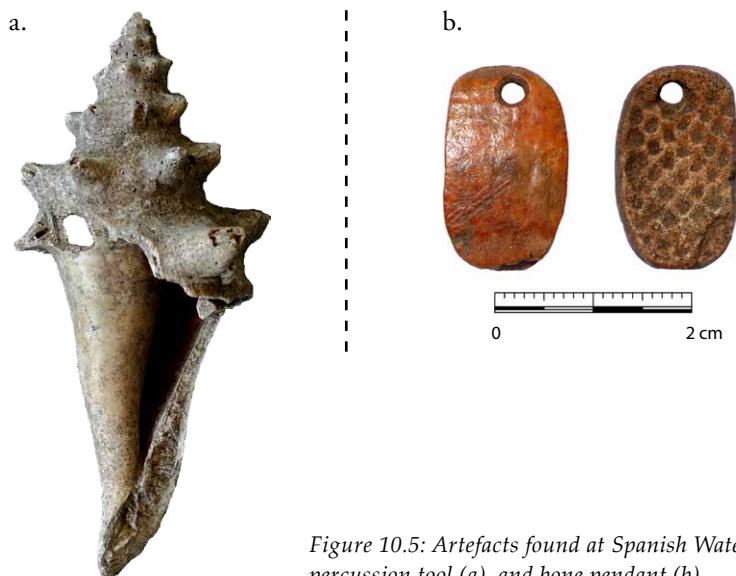


Figure 10.5: Artefacts found at Spanish Water: *Lobatus* percussion tool (a), and bone pendant (b).

Artefacts

Many specimens of *Lobatus* shells have been modified to simple percussion tools (Figure 10.5a). These were most probably used to punch a hole into the top of a *Lobatus* shell in order to facilitate the extraction of the animal. Other shell artefacts are a bead of *Lobatus gigas*, a *Lobatus* fragment with a drilled perforation and a fragment of *Astraea caelata* with a drilled perforation. The latter are clearly roughouts and point to the small-scale production of shell beads in the area of unit 2. Unit 4 yielded a pendant made of the bone of an unidentified animal (Figure 10.5b).

Lithics

The lithic analysis has been performed by Dr. Sebastiaan Knippenberg. The lithic assemblage comprises a number of flakes of various sizes made from a very fine-grained rock, possibly a mudstone or a cherty mudstone. Similar to cherts, this rock produces a nice conchoidal fracture. Most probably it is local to Curaçao. The small sample almost exclusively consists of flakes; cores are missing. These flakes have been made using the direct freehand percussion technique. By looking at the dorsal scar pattern on the flakes, the cores most likely were reduced in an opportunistic manner, not following a very standardized reduction protocol. None of the flakes exhibits any evidence of secondary working (retouch); still some of them might have been used as cutting or scraping tools. The majority of the material and the larger specimens have been encountered in Site C-215 (Figure 10.6).



Figure 10.6: Shell deposit C-215 encountered in a drainage channel and a sample of mudstone flakes.



Figure 10.7: Pottery from Spanish Water (C-039) dated to 200BC - AD 400.

Pottery

There is a relatively small number of pottery sherds in the artefact assemblages of the Spanish Water site ($n=60$). The majority was encountered in the off-deposit context of Units 1 and 2 ($n=31$). The remainder has been distributed over Units 3

($n=8$), 7 ($n=14$), 8 ($n=3$), and 12 ($n=4$). The pottery analysis has been carried out by Dr. Niels Groot. The size of the sherds is extremely small: all are smaller than 5 cm. In appearance 90% of the sherds are very rude and crumbly (Figure 10.7). Fabric analysis points to five different fabric categories of which one (Fabric 1) is characterized by coarse quartz sand temper and four (Fabrics 2-5) have been tempered with coarse fragments different rock types. The varying fabrics clearly point to two different practices of mining and tempering clay. It seems plausible that the finely tempered sherds are associated with Dabajuroid pottery. The coarse ware sherds, however, can probably be correlated with another mainland tradition preceding the Dabajuroid influx on the island.

Radiocarbon dates

Twelve shell and four charcoal samples were submitted for radiocarbon dating (Table 10.1). The resulting dates point to an occupation or the use of the site area over a long span of time. The earliest dates coincide with the dates from the Rooi Rincon site on Curaçao and fall in a range of 2900 to 2500 cal BC. The next set of seven dates ranges from 1150 cal BC to cal AD 130, showing an occupation of the site later in the Archaic Age. The latest set of four dates ranges from cal AD 1300 to 1655 and point to a recurrent interest in the area during the Ceramic Age and the early contact period when the indigenous peoples were confronted with European colonisation. The chronology at Spanish Water becomes more complicated if the

Lab.No.	Site	Unit	FNo.	Provenance	Material	C-14 age BP	Calibrated and corrected dates (two sigma)
GrN-32015	SBOC-0109 10-77-35	1	2	10-77-35	marine shell	4570 ± 35	2908-2701 cal BC
GrN-32016	SBOC-0109 S77-01	1	7	F77-01	charcoal	450 ± 30	cal AD 1415-1478
GrN-32017	SBOC-0109 S77-01	1	8	F77-01	charcoal	370 ± 25	cal AD 1449-1524 and cal AD 1558-1631
GrN-32018	Spanish Water C-215	1	10	36-68-46	<i>Cittarium pica</i>	4455 ± 20	2822-2586 cal BC
GrN-31915	Spanish Water C-215	1	6	36-68-45	<i>Cittarium pica</i>	4415 ± 20	2742-2538 cal BC
GrN-31916	Spanish Water C-215	1	9	36-68-46	<i>Cittarium pica</i>	4400 ± 20	2695-2492 cal BC
GrN-31917	Spanish Water C-039	1	13	59-80-47	marine shell	4435 ± 15	2753-2563 cal BC
GrN-31918	Spanish Water C-039	4	139	59-66-33	marine shell	3195 ± 20	1153-955 cal BC
GrN-31919	Spanish Water C-039	8	176	59-74-16	<i>Melongena melongena</i>	1915 ± 20	cal AD 423-565
GrN-31920	Spanish Water C-039	8	296	F08-01	charcoal	280 ± 15	cal AD 1524-1558 and cal AD 1631-1657
GrN-31921	Spanish Water C-039	12	297	47-56-04	marine shell	2680 ± 20	501-359 cal BC
GrN-31922	Spanish Water C-039	3	300	58-99-27	marine shell	2625 ± 20	415-257 cal BC
GrN-31923	Spanish Water C-039	2	301	68-07-23	marine shell	2450 ± 15	207- 55 cal BC
GrN-31924	Spanish Water C-039	6	307	87-12-29	<i>Melongena melongena</i>	2005 ± 15	cal AD 303-446
GrN-31925	Spanish Water C-039	7	333	F07-04	<i>Melongena melongena</i>	2255 ± 20	cal AD 15-AD 157

Table 10.1: Samples submitted for radiocarbon dating. (Abbreviations: Lab.No., Laboratory Number; FNo., Find Number).

occurrence of the coarse pottery fragments in the earlier (Archaic) deposits at the site is considered. This is a phenomenon which has also been noted elsewhere in the Caribbean and clearly needs more research.

The sites

Three sites will be highlighted here, i.e., Deposit A of the Spanish Water site, Seru Boca, and C-215 (Figure 10.3). The Seru Boca site is a rock shelter at the foot of Seru Boca Hill. It consists of a huge boulder fallen from the steep side of this hill. Its main feature is a shell midden with an area of 80 m² and some paintings in red on the southern face of the rock. The shell midden contains perhaps a million of small *Cerion* land snails – we counted more than 4000 in a 50×50-cm shovel test – and these snails are very common at Archaic Age sites on Curaçao, notably the site of St. Michielsberg. Marine shells include bivalves such as *Chama*, *Anadara*, *Pecten*, oysters, and gastropods comprising *Cittarium*, *Melongena* and *Nerita*. Artefacts are rare except for the common *Lobatus* percussion tools. A radiocarbon date of a marine shell points to an occupation between 2900 and 2700 cal BC, which suggests contemporaneity with the Rooi Rincon site.

Central in the rock shelter a stone-fringed fireplace was noticed. It appeared to be a 45-cm deep cooking pit filled with fire-cracked stones and abundant charcoal. Hardly any faunal remains were encountered and the cooking pit seems to have been used only a couple of times. Two charcoal samples point to a date between AD 1400 and 1500. The Seru Boca site is interpreted as one of a series of temporary camp sites regularly revisited by mobile Archaic Age groups. The rock paintings belong to this occupation as well. In the 15th century the site was incidentally reused by Late Ceramic Age communities.

Site C-215 is a small shell midden. Only a couple of square meters were left of this site, which was fully excavated. The shell midden was composed of common mangrove species, mostly oysters. Artefacts were relatively abundant and comprise a number of flakes of different sizes made from a very fine-grained rock, possibly a mudstone or a cherty mudstone. The source is probably the Knip Formation; these types of rock can be found in the northwestern half of the island. This lithic assemblage comprises of debitage as well as relatively large tools and has been interpreted as the evidence for the local production of tools.

Three radiocarbon dates are in the range of 2800 to 2500 cal BC and are contemporaneous with the Seru Boca and Rooi Rincon sites. The species composition and artefacts at Seru Boca and C-215 are completely different, although both are temporary campsites. Consequently, we should consider the possibility that Curaçao was not occupied by an island-bound population, but was frequented by several groups from other islands or the South American mainland during the Archaic Age.

Deposit A at the Spanish Water site mostly consists of bivalves like *Anadara*, *Arca*, *Chama*, and oysters next to gastropods such as *Melongena*. *Lobatus* only occurs in this deposit as the source of percussion tools. In the northwestern portion of this shell deposit a 50-cm-deep cooking pit, measuring 80×60 cm in area, was excavated, filled with fire-cracked stones, charcoal and faunal remains

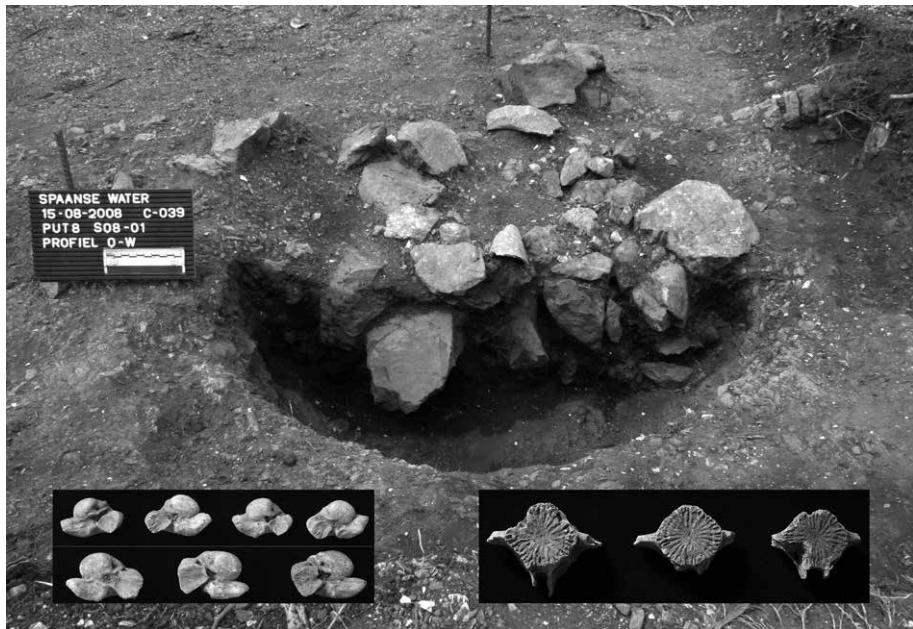


Figure 10.8: View of sectioned cooking pit and associated dolphin bones in Unit 8 at Spanish Water Deposit A.

(Figure 10.8). The intact structure of this cooking pit and the lack of ash layers in the deposit suggest a single event. The faunal remains in the shell deposit are concentrated around the cooking pit and are probably associated with it. The radiocarbon dates, however, point to a time gap of about 1500 years. The shell deposit has been radiocarbon dated to around cal AD 80, while a charcoal sample from the cooking pit points to a date around cal AD 1590. The faunal assemblage of this cooking pit consists for 99% of fragmented, partly burned, dolphin bones. All parts of the skeletons are present except for the mandibles and teeth. Both adolescent and adult animals are represented in this assemblage. At least four species of dolphins of the *Stenella* and *Delphinus* genera are represented in the assemblage. These species do not occur in an inland bay like Spanish Water, but live in the open sea. The bones may belong to three or four individuals, although in all 76 periotics have been recovered yielding an MNI of 41. The cooking pit is too small to process that amount of meat at one time. It is hypothesized that the dolphins were probably hunted in the open sea or driven into Spanish Water and then caught in the shallow water of the mangroves. Thereafter, they were butchered on top of a 1500 years older shell midden. Most of the animals were transported to the settlement uncooked, but a couple of dolphins were apparently cooked on the spot. The hunting of dolphins is not an indigenous practice, and it is therefore suggested that it has been introduced by the first Spanish colonists since it was common on the Spanish Mediterranean coast.

Discussion

The investigations at Spanish Water have revealed fourteen shell deposits in three different site locations. From a synchronic perspective the investigations at Spanish Water provide an important contribution to our knowledge of both the Archaic and Ceramic occupations of Curaçao. Indeed, prior to our research remains from Archaic times had been found only at sites such as St. Michielsberg, St. Joris (C-091 and 092), Jan Thiel (C-045), and Rooi Rincon (see Havisier 1987). The results of the current investigations confirm Havisier's conclusion that the Spanish Water site was continuously visited from 2900 cal BC well into the Ceramic period. The nature of the late Archaic Age occupation is not yet fully understood. From a regional and macro-regional perspective Archaic shell deposits such as those of Spanish Water are known from the neighbour islands of Aruba and Bonaire as well as coastal mainland areas (Dijkhoff and Linville 2004; Havisier 2001; Kelly pers. commun. 2010). The Archaic deposits on Curaçao show similarities and affiliations with the El Heneal complex of Venezuela, but also influences from the Manicuaire complex which is also documented for the island of Margarita (Andrzej Antczak pers. commun. 2015). Detailed inter-site analysis will provide a better understanding of the Archaic occupation of the region.

A tourist development such as Santa Barbara Plantation has a profound impact on the natural and cultural environment. The Spanish Water Archaeological Project was initiated by the developer in order to incorporate the archaeological values on the property in the best possible way in the business plan. The project has been concluded and we are now working on the possibility of organizing a permanent exhibition dedicated to the long and rich history of Santa Barbara Plantation.

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Early Valetta Treaty application at Slagbaai-Gotomeer, Bonaire

Jay B. Haviser

The Leiden University-BONAI Slagbaai-Gotomeer Project 2010

This research project came into existence through the request of STINAPA-Bonaire director, due to the 40 years jubilee of the STINAPA (Stichting Natuur Parken Nederlandse Antillen) organization on Bonaire. The initiative was conceived to update archaeological knowledge of the Washington-Slagbaai National Park, make way for new development projects within the park, and to renew the park's museum information at the entrance of the park. STINAPA is a non-governmental organization that is associated with the task to protect the natural and cultural heritage of Bonaire on behalf of the island government.

To achieve this initiative, STINAPA started a collaboration with different organizations, such as the local youth and science program BONAI (Bonaire Archaeological Institute) directed by Jay Haviser, SKAL (Section of Culture, Art & Literature), and the Faculty of Archaeology from Leiden University (the Netherlands), under the direction of Corinne Hofman. The Slagbaai-Gotomeer Project 2010 was facilitated financially by STINAPA - Bonaire, the Mondriaan Foundation (the Netherlands), Faculty of Archaeology of Leiden University, and Jong Bonaire a local NGO. This 2010 Leiden University-BONAI Campaign was conducted in full compliance with the Valetta Treaty for international standards, being the first time those high-level professional standards were officially implemented on Bonaire (Haviser *et al.* 2010).

The 2010 program was conducted under the direction of Jay Haviser with the Leiden students; Khirsty Werleman, Irene Meulenberg, Lennart van der Horst and Remy van Aerle, as well as local high-school students of the BONAI program. As well during part of the fieldwork, two SIMARC (Sint Maarten Archaeological Center) students joined the fieldwork team. Supervision of the project was by authority of the DROB (Dienst Ruimtelijke Ontwikkeling Bonaire), and occasional consultation by NAAM (National Archaeological Anthropological Memory Management) of Curaçao.

This particular project comprised an archaeological fieldwork program in the Washington Slagbaai National Park from June 4 to July 2, 2010 (Figure 11.1). The fieldwork program consisted of a field survey conducted in the following areas: the Slagbaai Saliña, Saliña Wayaka, Goto Lagun (also known as Gotomeer), Playa Frans, Playa Funchi, Put Bronswinkel and the former plantation Labra. Not only field surveys were carried out but also several 1X1 meter test-pit excavations and a small 3X3 meter trench in the Slagbaai Saliña. The fieldwork program had three aspects; prehistoric-, historic- and a multi-component (prehistoric - historic) perspective. During the six-weeks of fieldwork, the entire circumference of the large Slagbaai and Gotomeer inland bays were surveyed by the team on foot. Then in the locations of observed important artifact concentrations, test excavations were conducted. The results of these surveys and test excavations were the identification of over 25 archaeological sites, of which some had been previously recorded by a survey in 1987, and thus these sites were confirmed as still existent. From these investigations, over 2000 artifacts were collected and analyzed, allowing the team to interpret the human occupation periods around these bays.

Description of the Gotomeer Bay area and the Slagbaai Saliña area

In the Gotomeer Bay area radiocarbon dates have been taken in 1987 during the island's first archaeological survey by Havisier. These radiocarbon dates showed that this particular area was in use by humans since the Archaic Age. Seven archaeological sites had been identified in this particular area, which have the following site types: ephemeral (a site which is used just for one day) or temporary (a site which is used for a very short period, like two days for example). Nowadays the Gotomeer Bay has no connection to sea, due to a land bridge that separated the inland bay from the sea. However, there is evidence that in earlier times the bay was connected to the sea. This evidence can be seen in the mangrove-dwelling shellfish remains recovered from archaeological tests in 1987. Pre-Columbian people favored these mangrove areas, due to the presence of the related fauna which served as a primary food source in those times on Bonaire. Gotomeer Bay was not the ideal location to practice agricultural activities during the Ceramic period due to sparse agricultural soils. However, the area does possess some fresh water sources like Dos Pos. Nevertheless the Gotomeer Bay could have been visited during the Ceramic period for gathering the present mangrove related fauna (Havisier 1991).

For the Slagbaai Saliña area radiocarbon dates had never been taken, until the field campaign in the summer of 2010. One of the important goals for the 2010 campaign, was for samples to be collected for radiocarbon dating. The 2010 results were processed by the University of Groningen, in the Netherlands. Havisier recorded during his research in the 80's two ephemeral archaeological sites for the Slagbaai Saliña. One site has its origin in the Ceramic period and for the other it was unknown. During the last survey campaign in 2010 additional other ephemeral archaeological sites were identified. Another aspect of the Slagbaai Saliña area is its historic archaeological sites presence. The historical aspect in the area is positioned at the land bridge that separated the saliña from the ocean. On this particular



Figure 11.1: Slagbaai Saliña (a) overview shot, the survey concentrated along the edges of the water and a little further inland.

land bridge still stand some historic buildings, to the south of this land bridge a historical fortification is identified which is located at the seaside cliffs.

Brief Historical Background

The Amerindian Cultures (ca. 1600 BC - 1800 AD)

There is known to have been very early human inhabitation of Northwestern Venezuela adjacent to the island of Bonaire, around 16,000 years ago, consisting of a technological level called the *Lithic Age* (Rouse and Allaire 1978). This late Pleistocene period is also referred to as the Paleo-Indian Epoch, and is represented by a Flake Tradition culture technology, which uses simple, unifacial stone-chipping methods. The Lithic Age has important sites in the Falcon region of Venezuela at El Jobo and Taima-Taima (Rouse and Cruxent 1963), yet very rarely are sites found of the Lithic Age time period on the coastal islands. The Lithic Age is followed by the *Archaic Age*, also referred to as the Meso-Indian Epoch, with connections to both the mainland and Curaçao (Haviser 1987). The Archaic Age is represented by a technological shift to more stone-grinding modification techniques, and maintaining a hunter-gatherer-fisher subsistence strategy, without the production of ceramic artifacts. The most complex of the Amerindian cultural groups to reach the island started arriving from the mainland around 500 AD, and represent the *Ceramic Age* of technological development, also called the Neo-Indian Epoch. These Ceramic Age people are known to be part of the Caquetio ethnic

group from northwestern Venezuela (Oliver 1989), and possessed agricultural skills, ceramic manufacture, and developed socio-religious-political hierarchies. Amerindian populations remained on the island into the *Historic Age* after arrival of the Europeans, with small villages located at interior and isolated places such as Rincon, Fontein, and later Nort Salina. The first recorded contact with Europeans was during a visit by Amerigo Vespucci to the island in 1499 (Haviser 1991). Amerindians during the Historic Age on Bonaire, quickly adapted European technologies and some cultural influences occurred (Haviser 1991). Although there are still Amerindian descendants on the island, particularly in the villages of Rincon and Nort Salina, pure-blooded Amerindians are reported to have no longer resided on the island by about 1800 AD (Hartog 1978; Haviser 1991).

The Spanish Period (15th -16th centuries)

According to the written documents, Bonaire was discovered in early September 1499 by Vespucci, while twenty days earlier, he had a major battle with Amerindians at La Guaria, Venezuela. (Haviser 1991). The most important document of the expedition of Ojeda and Vespucci in 1499 is the *mappamundi* composed by the cartographer Juan de la Cosa. This represents one of the first maps of the New World. It is interesting to see that an island which may be Bonaire is mentioned on this particular map (Haviser 1991).

The Caquetío region was mostly used by the Spanish for natural resource exploitation (for example of brasilwood). Despite the exploitation of brasilwood in this region, the Spanish came to the conclusion that there were not many forms of riches here. Diego Columbus declared the ABC islands as *islas inútiles*, or 'useless islands'. Through this declaration of Diego Columbus the Amerindian slave hunters, or *indieros* were able to freely exploit the region for slave hunting. Diego de Salazar was one of these *indieros* and captured around 2000 slaves from the islands of Curaçao, Aruba and Bonaire in 1515. These slaves had to work in Hispaniola for the *encomienda* system which was installed by the Laws of the Indies; this system ordered that Amerindians who were living on property of the Crown had to work for the Factor or Administrator of that particular property (Haviser 1991).

In the Spanish period, the small population of Spanish people living on Bonaire was subject to the *Mayordomo* in Curaçao and the Caquetío population was allowed to live under their own *cacique* (chief) under Spanish rule. The newly adjusted Laws of the Indies protected the Caquetío population from slavery; the only obligation they had to fulfill was to provide the small population of Spanish on the islands with food and livestock (Haviser 1991).

In the late 16th century the remaining population of Caquetío on the island was still able to live in their own way. But there were some changes in their lifestyle: the introduction of new materials such as iron tools, new food sources and the eventual dilution of their genetic stock.

The Dutch Colonial Period (17th – 18th centuries)

It is interesting to note that historic documents reported in the early 1600's that a small population of about 40 Caquetíos lived on Bonaire. They stayed in the areas of Rincon and Fontein (Antoin 1998; Haviser 1991).

In 1623 the Dutch arrived on Bonaire. In the beginning they were mostly privateers. The Dutch made short raids for brasilwood and later on they came mainly for the gathering of salt. 1634 was the year that the Dutch, under Johan van Walbeek, decided to capture Curaçao and Bonaire from the Spanish (Hartog 1978). They saw opportunities on Bonaire in terms of the abundance of livestock, the brasilwood and salt winning.

In the period between 1636 and 1792 Bonaire was owned by the Dutch West India Company (WIC). The WIC transported the first African slaves from Curaçao to Bonaire. This influx of African slaves was not substantial, as in 1700 there were only 97 African slaves present on Bonaire. The remarkable policy of the WIC was that Europeans were not allowed to set up a living on Bonaire, except for the Commander and his relatives and soldiers. Some of these soldiers actually married Bonairean Amerindians and remained on Bonaire (Haviser 1991). After 1700 the WIC increased its import of African slaves to Bonaire and these slaves were mostly coming from west central Africa. (Haviser 1991).

According to the historic sources, the last indigenous Amerindians fled from the island when the English took control (for a short period) of the island in 1810 (Hartog 1978). In this year they handed their power to a American merchant, Joseph Foulke who leased the entire island from them. This American merchant got all the produce of the island and its 300 slaves whom he had to feed, during his time the open-sea Slagbaai bay area of this 2010 survey was a major ship landing and export center for particularly goat meat and other provisions. With the slaughter of goats as a primary function, the bay had come to be known as 'Slagbaai' (translates to 'Slaughter Bay'). In 1816 Bonaire returned to the Dutch from the English/Americans and the Netherlands took control again.

The Dutch Colonial and Modern Period (19th-20th centuries)

Even as the Dutch regained possession of Bonaire in 1816, the island was still maintained as a Government Plantation until 1868. This was three years after the abolition of slavery in 1863, at which time, 151 private and 607 government owned enslaved Africans were freed on Bonaire (Hartog 1978). Shortly after emancipation, many of the freed Africans moved to the village Rincon, which was in proximity to the large plantations of Washington and Slagbaai.

Upon purchasing the land in 1868, J. Neuman constructed a plantation house at 'Slachtbaai' (later derived to Slagbaai), and built salt pans in the Salinas. Afterwards, aloe production also required the construction of structures for processing. Unfortunately, this was the beginning of a long period of economic decline for Bonaire, further complicated by a massive hurricane in 1877 (Hartog 1978).

The primary resources exploited for export by these plantations at the Slagbaai-Gotomeer area were salt, goats, dividivi pods, aloe and charcoal. It is reported that over 15,000 goats once roamed these lands, with about 3000 slaughtered and

exported annually, primarily to Curaçao. Throughout the 19th century and until the 1930s, Slagbaai was the customs and duties office, for export from the area. Aloe production was not as significant at Washington as it was elsewhere on the island, yet more than 70 cases were produced per year. Charcoal was in fact one of the more prominent export commodities from Slagbaai, produced from burning branches of the kwihi tree (*Prosopis juliflora*). The area of Labra also began in the early 20th century by the workers of the plantation seeking to be able to provide for themselves, with one house and a dam indicated on the 1916 Werbata map. By the 1950s a small work community had developed there at Labra, primarily producing goats and charcoal. In response to the decline of charcoal production after 1940, the owner by then Boy Herrera, introduced cattle along with the goat/sheep as livestock with great success. In 1969, the Washington National Park was inaugurated by Gov. Nicolaas Debrot, son of the former owner. In 1976, the Slagbaai property owner agreed to sell his parcel to become part of the national park, also on the condition it remain in a natural state (Gerharts 1968). In 1977, an additional government contribution of the 'Brasil' parcel, which still had residents at Labra, was made together with the Washinton and Slagbaai parcels, so that the Washington-Slagbaai National Park was created. On October 10, 2010, the country of the Netherlands Antilles ceased to exist by law, and Bonaire then fell into a status of 'municipality within the Netherlands' together with the islands of Saba and St. Eustatius. With new Dutch authority, application of the Malta Convention (Valetta Treaty) was then effective for the islands, including Bonaire, and thus the compliance requirements by DROB for this research.

Methods and Techniques

This is a short summary of methods and techniques used during the 2010 Leiden University-BONAI Slagbaai-Gotomeer Project (Haviser *et al.* 2010). According to the Netherlands KNA regulations daily and weekly summary reports were kept and included in the final report. There designated specific central control GPS coordinates for these two research areas at Slagbaai Plantation and Gotomeer.

Survey

For all surveys we used the field walking method, this means we went into the field without a set grid and without strict parameters to adhere to. The areas we surveyed were based on a 'predictive model' with prior knowledge. The prior knowledge here being the surveys Haviser conducted in the 1980's. During our walks a report was kept on what we found. Coordinates of all the exceptional finds and find concentrations were taken with a GPS device. At the end of each walk the surveyed area would receive a designation and be recorded on the field-map. All exceptional finds from that area would be labeled with the area code and the GPS mark code. From every concentration of finds a selection was taken and labeled in the same way. Some but not all of these concentrations of finds were photographed due to the non-availability of a camera. All non-special finds were not measured but were registered for later reference.



Figure 11.2: Slagbaai historic plantation structures.

The following areas were surveyed using these methods: Slagbaai Plantation grounds including Slagbaai Saliña, further Playa Frans, Playa Funchi, the Put Bronswinkel area, the Gotomeer and a quick random walking survey of the Labra area were surveyed. An overview of Slagbaai Saliña and Gotomeer survey areas can be seen on Figure 11.2.

Excavations

Two zones were investigated using the test pit excavating method: Zones 1 and 2. Zone 1 being the Slagbaai plantation house area and the immediate surroundings including the Saliña area, and zone 2 being the general Gotomeer area. All these areas have been previously identified by Haviser in 1987/88.

Due to the nature of the excavations program (the inclusion of BONAI-SIMARC students) several people worked on excavating the testpits and trench. Therefore all the testpits and the trench have been worked on by an alternating workforce. The testpits and trench were excavated using standard issue trowels and shovels (Figure 11.3). All activities during the excavation were recorded in the daily reports and weekly reports. All finds and carbon dating samples were recorded in a radiocarbon dating sample list and a find-list.

Reference Collection and Analysis

During the survey at Slagbaai-Washington National Park, surface material was collected and put in find bags together with find labels on which the location and date were written down. During the first week it was decided to make a reference collection of the surface material which was collected. This was not only necessary for the BONAI-SIMARC students who helped with the surveys and the test pits, but it was also necessary for the four Leiden University students to become acquainted with the artifacts.

This project consisted of two different time periods: a Historic period and a Prehistoric period. The material that was found during the survey and the test pits consists therefore of historic material such as: ceramic, glass, stone, brick-mortar (building materials), metal, and kaolin pipes. Whereas the prehistoric material consists mostly of ceramics, shell, coral, and stone.

Recording

Different areas were surveyed during the project. After the materials were collected, the objects were washed with water and then dried in the sun. After drying they were put again in the find bags, and every bag of the same area was put with the other bags of that specific area. Then the material was divided in possible material categories, counted and weighted. The different material categories were ceramic, glass, stone, coral, metal, brick-mortar, kaolin pipes, marine shell, land snail, wood/textile, bone and a category for really modern objects. All this information was noted in the BONAI artifact analyses form. The students of BONAI, and the two students of SIMARC were mostly supervised by two students of Leiden University, as recording interpretation of the material was sometimes difficult. Especially considering, as different material categories could be divided in subgroups, which were on the artifact forms.

Slagbaai / Slagbaai Saliña and Gotomeer

At the Slagbaai plantation site, 7 testpits were put in the immediate surroundings. Five more were located in the Slagbaai Saliña area. The locations for these testpits were randomly chosen. All of the testpits were small 1 x 1 m pits. (Figure 11.3a). All of the test pit locations were recorded with a GPS device.

All testpits were dug in arbitrary levels of 10 cm. These 10 cm were measured by using measuring tape on the 4 corners and in the center. Most pits measured around 10 to 30 cm in depth. Every level was photographed and exceptional finds were recorded. Special finds like complete *Strombus* sp. and *Melongena melongena* were carefully excavated and wrapped in tin foil for protection, these finds were sent to Leiden University to be radiocarbon dated.

A larger 'test trench' of 2 x 3m with an attached 1 x 1m was made on the Slagbaai Saliña site 5 peninsula (Figure 11.3b). The Trench was tied to a known Kadaster point (point number KAD-208f) in the Slagbaai Saliña area. The accompanying daily reports contain all information on the exact points measurements. At both the testpits and the trench in the Slagbaai Saliña area a 4mm wire mesh sieve was used to sieve out any smaller finds. Gotomeer Bay field procedures were the same as at Slagbaai plantation area and the Slagbaai Saliña area.



Figure 11.3: Slagbaai Salina 1X1m Testpits (a) and Trench Excavation (b).

Description of finds from the Slagbaai testpits (SBT)

Around the Slagbaai Plantation buildings 9 testpits were randomly placed. In testpit 1, level 1 (0-10cm), pottery, glass, metal, building materials, three pieces of kaolin pipes, marine shell and bones were found. Pottery fragments were identified as rim parts, base and body parts. Glass fragments were identified as square bases, round bases, body parts, and as spout. Twelve pieces were also categorized as building materials which were identified as plaster. Also kaolin pipes were found. Two pieces are stem fragments and one piece is part of the bowl. All the bone material could be identified as fauna (Figure 11.4 and 11.5).

In testpit 1, layer 2 (10-20cm), pottery, glass, metal, building materials, marine shells, and bones were found. Glass fragments were identified as square base, round bases and body parts. All the bone material could be identified as fauna.

In testpit 2, level 1 (0-10cm), glass part of the body, a stone which could be identified as jasper, metal fragments of which one was an iron nail and the other one were all unidentifiable. Testpit 3 was cancelled.

During testpit 4, level 1 (0-10cm), glass and a building materials were found. All glass fragments are body parts. In testpit 5, level 1 (0-10cm), glass and one cittarium were found. All glass fragments are part of a body. In testpit 6, level 1 (0-10cm), marine shells, and one unidentifiable bone were found (probably fauna). During testpit 7, level 1 (0-10cm), body glass fragments, coral, and marine shells were found.

In testpit 8, level 1 (0-10cm), fragments of glass were found which were all body parts. Furthermore, one fossilized coral and four fossilized marine shells were found as well as one piece of metal which was probably used as a lead weight during fishing.

The last testpit of the Slagbaai area was testpit 9, level 1 (0-10cm). In this testpit coral and marine shells were found. Only the *Melongena melongena* were measured, which were respectively 9 and 9.8cm long. Furthermore, three additional *Strombus* sp individuals were used as carbon dating sample for testpit 9, level 1.

Description of finds Wayaka-Slagbaai Coast (WSC)

During the survey of Wayaka-Slagbaai Coast pottery, stone and a marine shell were found. One pottery fragment is part of a body. All the stone samples are recorded as chipped, whereas the *Strombus* sp. was recorded as a grounded celt.

Description of finds from Gotomeer (GTM)

During the survey of the area that has been classified as Gotomeer 1, pottery, fragments of glass and one stone were found. The pottery is categorized as stoneware that is part of a vessel body. The glass consists of three square bases, two round bases, four bodies and two spouts. The stone piece that was found could be categorized as a basalt flake.

During the survey of Gotomeer 2, pottery, fragments of glass and marine shells were found. The fragment of pottery could be categorized as stoneware, which is part of a body with an attached base. Of the glass fragments are four square



Figure 11.4: Glass and ceramic historical artifacts from the Slagbaai survey and excavations.

bases, one round base, three bodies and three spouts. The *Melongena melongena* are respectively 8.7 and 9.9 cm long.

During the survey of Gotomeer 3, seven marine shells were found, of which five are *Melongena melongena*. The *Melongena melongena* are respectively from 4.7 - 12.4 cm long.

During the survey of Gotomeer 4 glass and marine shells were found. The light green glass and the two marine shells are complete. Of the marine shells is one *Strombus* sp fossilized, the other three are not fossilized. Furthermore, two

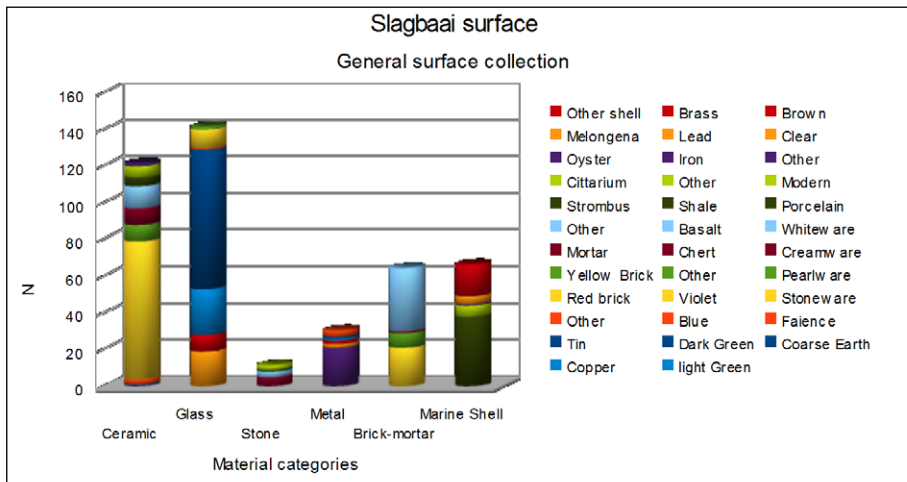


Figure 11.5: All finds from the Slagbaai surface survey. All the subcategories of the material categories are shown.

Melongena melongena were found, one is 12.5 cm long. Figure 11.6 and 11.7 show the material results of the survey of Gotomeer sites identified.

Summary of finds from Gotomeer testpits (GMT)

Two testpits were made in the Gotomeer area. In testpit 1, level 1 (0-10 cm), chert, coral (porites) and marine shells were found. These marine shells contain different species: *Strombus* sp, oysters, a *Melongena melongena* of 5 cm and 35 other shells, which were not specified. For testpit 1, level 1 also carbon dating samples were taken, which consists out of three *Melongena melongena* individuals of respectively 9, 8.5, and 6 cm long. In the second layer (10-20 cm) of testpit 1 of Gotomeer an oyster shell was found.

In testpit 2, level 1 (0-10 cm) only marine shells were found. Level 1 contained *Strombus* sp, oysters, *Melongena melongena* and other shells. Furthermore, twelve carbon dating samples were taken. These consist of *Strombus* sp. and *Melongena melongena* individuals. The *Melongena melongena* were respectively from 8.5 - 12.5cm long.

Description of finds from Labra (LBA)

During the survey of Labra, ceramics, glass, metal and building materials were found. The ceramic artefacts can be divided into stoneware and whiteware fragments, which are a base and a body part. The glass could be categorised into clear and light green, two have a round base and three others are complete. Of these complete pieces, two are wine bottles of one litre, and one is a complete Heineken 'H.B.M.' bottle. All the glass objects have raised texts. The metal category could be further divided into iron and tin artifacts. One iron artifact is a kettle. The building material is a yellow brick. The results can be seen in Figure 11.8.

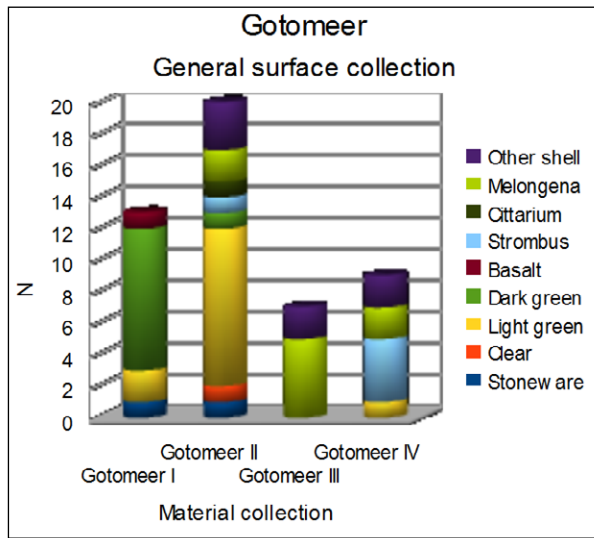


Figure 11.6: The results of the Gotomeer survey for every Gotomeer area apart with detailed material categories.

Radiocarbon C-14 Results

In addition to the field survey evidence noted previously, the processing of Radiocarbon C-14 dates from various of the prehistoric archaeological sites identified in the survey, are among the most important results from this entire Slagbaai-Gotomeer archaeological research. Due to the half-life of the carbon-14 isotope, Radiocarbon C-14 processing was only useful with the dating of prehistoric sites.

There were 26 radiocarbon samples taken from prehistoric archaeological sites noted in the survey, all consisting of marine shell specimen. There were eleven (11) marine shell samples processed for these radiocarbon dates, which were immediately placed in aluminum foil during the excavation, to minimize contamination of the

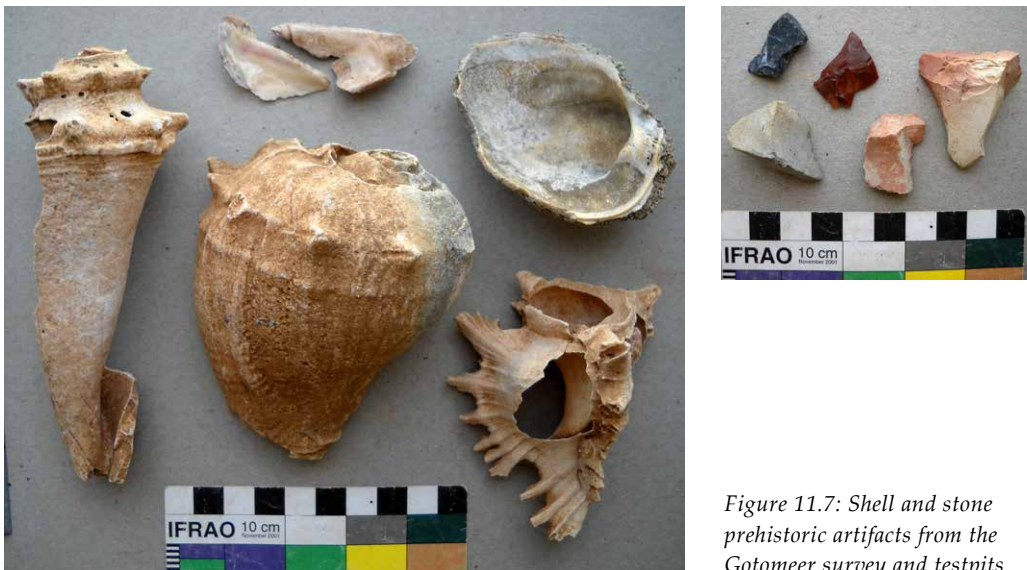


Figure 11.7: Shell and stone prehistoric artifacts from the Gotomeer survey and testpits.

samples. The radiocarbon C-14 processing was conducted by *the Centrum voor Isotopen Onderzoek, Groningen University*, through a cooperation with the Leiden University faculty of Archaeology.

Radiocarbon sample descriptions

The specific sites and excavation levels from where these samples were taken are initially listed here, then provided individual descriptions subsequently. The C-14 sample catalogue system consists of the specific site code, the collection year (2010), and the sample number (ex. SST 10-02). In the event that two separate samples were dated from the same collection location an additional number in parentheses follows the sample number (ex. SBT 10-10(2)).

Slagbaai Sample Locations:

- **STR 10-07**; Slagbaai Salina #5, Trench 1, level 1 (0-10cm), one *Strombus* sp. shell sample
- **SBT 10-10(1)**; Slagbaai Testpit #9, level 1 (0-10cm), one *Strombus* sp. shell sample
- **SBT 10-10(2)**; Slagbaai Testpit #9, level 1 (0-10cm), one *Strombus* sp. shell sample
- **SST 10-02**; Slagbaai Salina #5, Testpit 1, level 1 (0-10cm), one *Melongena* sp. shell sample
- **SST 10-04**; Slagbaai Salina #5, Testpit 2, level 1 (0-10cm), one *Strombus* sp. shell sample
- **SST 10-07**; Slagbaai Salina #5, Testpit 2, level 2 (10-20cm), one *Melongena* sp. shell sample
- **SST 10-10**; Slagbaai Salina #6, Testpit 2, level 1 (0-10cm), one *Strombus* sp. shell sample

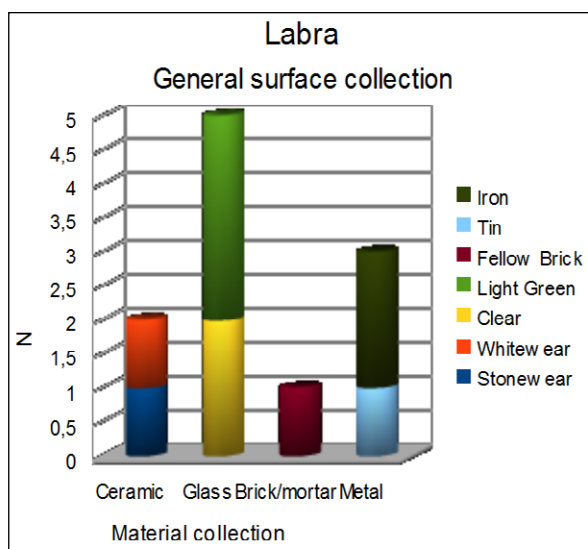


Table 11.8: Survey results of Labra shown in general material categories.

Gotomeer Sample Locations:

- **GMT 10-04(1);** Gotomeer Testpit 2, level 1 (0-10cm), one *Melongena* sp. shell sample
- **GMT 10-04(2);** Gotomeer Testpit 2, level 1 (0-10cm), one *Melongena* sp. shell sample
- **GMT 10-05(1);** Gotomeer Testpit 1, level 1 (0-10cm), one *Melongena* sp. shell sample
- **GMT 10-05(2);** Gotomeer Testpit 1, level 1 (0-10cm), one *Melongena* sp. shell sample

From the above listing it can be seen that these eleven radiocarbon samples were retrieved from six (6) site locations; Slagbaai Salina #5 Trench 1; Slagbaai Testpit #9, Slagbaai Salina #5 Testpit 1; Slagbaai Salina #6, Testpit 2, Gotomeer Testpit 1; and Gotomeer Testpit 2. All of these samples were taken from the upper level 1 (0-10cm) at each site excavation, with the exception of Slagbaai Salina #5 Testpit 2, which has one sample from level 2 (10-20cm). The very shallow nature of the soils encountered in this survey area has been discussed earlier, and is the reason for the shallow depth collection samples for these radiocarbon dates.

Radiocarbon Dates

Radiocarbon dating techniques require both uncontaminated samples and a system of calibration calculations to compensate for radioactive accumulations in the atmosphere since the technique was developed in 1949. After submitting the samples and then receiving the raw radiocarbon dates processed at the University of Groningen, the calibration of those dates was conducted by using a computer program called CALIB REV6.0.0, developed by M. Stuiver and P. Reimer (1986-2010). What is presented below for these radiocarbon dates are: the Slagbaai-Gotomeer sample code, the Groningen code number and date range result in years before present (B.P.), and the calibrated age (using a 2 sigma variation) indicated in Christian calendar years (BC indicates years 'before Christ'). The Slagbaai-Gotomeer radiocarbon dates are further presented here from top to bottom in chronological order from the youngest to the oldest dated sites at the two locations.

Radiocarbon dates result interpretations

Based on the radiocarbon date results from these Slagbaai-Gotomeer prehistoric sites (Table 11.1), it is clearly evident that there was a substantial Archaic Age population presence around these bays from about 3600 to 2400 years ago, thus around BC 1600-200. Indeed with these results, we can see that, based on the known data, the Slagbaai-Gotomeer area was the largest concentration of the earliest human populations on Bonaire. This evidence was not detected by Havisser during his research in 1987, and is a significant new contribution of this 2010 archaeological campaign. In particular, the two radiocarbon dates from the Slagbaai Salina #5 Testpit 1 and Slagbaai Salina Testpit #9 sites, at 3610 +/-25 years BP and 3410 +/-20 years BP respectively, are considerably older than the previously known 'oldest' Archaic Age archaeological site for Bonaire, which was recorded at Lagun

2010 Sample	GrN#	Age (B.P.)	cal. Age (2 sigma)
Gotomeer:			
GMT 10-04(1)	32748	2412 +/- 15	BC 170-30
GMT 10-04(2)	32749	2785 +/- 20	BC 715-460
GMT 10-05(1)	32750	3095 +/- 20	BC 995-830
GMT 10-05(2)	32751	3245 +/- 25	BC 1230-1015
Slagbaai:			
SBT 10-10(2)	32753	2575 +/- 20	BC 370-210
SST 10-02	32754	2665 +/- 20	BC 485-350
SST 10-10	32757	2680 +/- 25	BC 510-355
SBT 10-10(1)	32752	2705 +/- 30	BC 560-365
SST 10-04	32755	2735 +/- 25	BC 615-385
STR 10-07	32758	3410 +/- 20	BC 1405-1265
SST 10-07	32756	3610 +/- 25	BC 1645-1470

Table 11.1: Radiocarbon C-14 dates for the 2010 Leiden-BONAI Research for Slagbaai-Gotomeer, Bonaire.

and dated to 3320 +/-55 years BP (Haviser 1991). As well, all four of the Gotomeer radiocarbon samples from this 2010 research (2412 +/-15 to 3245 +/- 25 years BP), date remarkably older than the previous two Archaic Age dates for Gotomeer recorded in 1991, even though the Gotomeer area does remain identified as a haven for the Archaic Age populations as was initially suggested by Haviser (1991).

What is most significant from these results is that we now understand that the Slagbaai-Gotomeer bay systems were the earliest focal habitation niche for the Archaic Age peoples on Bonaire, and that these bays remained a primary focal niche even while the Archaic Age populations were exploiting other areas on the island at Wanapa and Lagun. The Slagbaai-Gotomeer area in fact has radiocarbon dates that cover the full range of the Archaic Age presence on Bonaire, dating from about BC 1645 to BC 130.

What is curious about these radiocarbon results is that there were no prehistoric sites of the Ceramic Age represented in the dates, even though a few ceramic artifacts were recovered from some of the sampled sites, and there are known Ceramic Age sites in the area. It may be that the shallow depth of all these prehistoric sites mixed the multiple components of occupation by both Archaic Age and Ceramic Age peoples, including our radiocarbon shell samples, most often being the larger *Melongena* species, were more representative of the Archaic population food deposits and not the Ceramic population deposits.

Specific Site Interpretations

Slagbaai survey

During the survey of the Slagbaai plantation house complex of residence, the storage buildings and the stone walls, historic artefacts were found. These historic artifacts of these areas consist of stoneware, creamware, whiteware, pearlware,

porcelain, and faience. Also, glass, and building materials like roof tiles, floor tiles, different kinds of bricks, and plaster were found. A lot of metal fragments were found, for example a broken axe head, part of a cooking kettle, screws and nails. Also stones fragments were found like chert, shale and basalt. A variety of marine shells was also found. Due to the location of the Slagbaai plantation house complex and its surrounding buildings on the land bridge one has to be careful to interpreted marine shells only as a result of human activity. Marine shells can be found there due to natural processes, like from waves, but also because of the re-use by other animals like the hermit-crab. Located during the 2010 survey were also the ruins of the 17th century Dutch fortification with early structural remains on the south hill. This area is of interest for the historic period, and as such the results are in correspondence with the expectation of the area.

Slagbaai testpits

Testpits 1 to 8 were placed in the near vicinity of the Slagbaai plantation house complex of residence, the storage buildings and the stone walls. In these testpits many historic artifacts were found, such as; ceramic, glass, metal, building materials and bone fragments. However, testpit 9 was placed at the top of an old limestone formation where during the former survey in 1987 a prehistoric site was located. The 1987 site was again located during this 2010 survey project. The artifacts found were mainly marine shell and coral fragments. Testpit #9 confirms the assumption that the site is of prehistoric origin. Furthermore, two radiocarbon samples were taken for this testpit, with dates from the Archaic Age at 2575+/-20 and 2705+/-30 years ago. The area around testpit 9 is as such important for the prehistoric period, and the results are in correspondence with the expectation of the area, as it confirms the historic activity in the area for the Slagbaai plantation, but also the re-identification of prehistoric sites from the 1987 survey.

Wayaka survey

During the survey of Wayaka, historic objects, like glass, were found, as well as fossilized shells, which more probably can be subscribed to an even older period than the prehistoric human occupation. This area is of interest for the prehistoric period.

Slagbaai/Wayaka Saliña survey

During the survey of Slagbaai/Wayaka Saliña, historic artifacts as well as marine shells and land snails were found. This area is of interest for the historic period and the prehistoric period, as it connects the Slagbaai area with the Wayaka Saliña. The marine shells may date from the historic period as the prehistoric period. The conch shell (*Strombus* sp.) has been used by African-Caribbean people on Curaçao as a musical wind-instrument, interior doorstep and for spiritual protection (Haviser 1999). Conchs were also used as food in both the prehistoric and historic times, this example can be still seen at the Lac Cai area on Bonaire. All these artefacts are

surface finds and as such, sampling for radiocarbon dating was useless. However, Slagbaai/ Wayaka Saliña area is of interest for the Historic as well as the Prehistoric period.

Wayaka/Slagbaai Coast survey

During the survey of Wayaka/ Slagbaai Coast historic artifacts and possible prehistoric artifacts were found. Stoneware is typical for the historic period, whereas the coarse earth pottery is typical for the prehistoric period. However, it is still possible that these pottery fragments were made during historical times, the African-Caribbean peoples also made low-fired pottery of coarse earth (Haviser 1999). Chert and three limestones fragments were recorded as chipped. The *Strombus* sp. piece was recorded as a grounded celt. It can be assumed that these artifacts are prehistoric, although testpits can give a more exclusive result. However, Wayaka/Slagbaai Coast is of interest for the Historic and Prehistoric periods.

Slagbaai Saliña survey

During the complete survey of the Slagbaai Saliña numerous historic artifacts were found, such as; stoneware, pearlware, coarse-earthenware pottery, different types of glass fragments, building materials and metal. However, marine shells and coral were also found. Stones like chert, shale, jasper, quartz and basalt were found. Some of these had signs of human use, as these are chipped, or burnt like burned chert which turns red. Even a possible anvil was found at an overhang shelter location. The Slagbaai Saliña is of interest for the historic period, but it needs to be mentioned that during the survey by Haviser several prehistoric sites were found in the same areas as where the survey of summer 2010 was conducted.

Slagbaai Saliña testpits

During the excavation of the testpits in the Slagbaai Saliña 5 marine shells and corals were predominate. Three radiocarbon samples were taken, with results of 3410+/-20 to 2665+/-20 years ago, proving that these artifacts are of prehistoric origin. During the digging of Testpit 1 in the Slagbaai Saliña 6, marine shells, coral, coarse earthenware ceramics were found. This testpit is probably of prehistoric origin, but with historic period re-use. The material of the second testpit contains coarse earthenware pottery, stones, marine shells and kaolin pipes. It is probable that the Testpit 6 is mixed with the coarse earthenware materials having a historic instead of a prehistoric origin. Two radiocarbon samples were taken for Testpit 6, the results were dates of 2705+/-30 and 2680+/-25 years ago, establishing at least initial prehistoric origin of the site, with subsequent historic presence.

Slagbaai Saliña trench

In the trench of Slagbaai Saliña 5 a large quantity of marine shells, chert and coral fragments were found. A radiocarbon dating sample was taken, which produced a date of 3410+/-20 years ago, and thus confirms these finds are prehistoric.

Gotomeer Bay survey

During the survey of Gotomeer Bay historic artifacts were found, like stoneware, and glass. However, from the 1987 survey we know that the area is of importance for its prehistoric value also. Prehistoric artifacts noted were mostly marine shells, that these artifacts are prehistoric, the testpits gave a more conclusive result. The Gotomeer Bay is of interest for the prehistoric period, although historic artefacts were also found.

Gotomeer Bay testpits

During the testpits in the Gotomeer Bay the primary artifacts recovered were marine shells, chert and coral fragments. The radiocarbon samples from these two Testpits, dated from 2412 \pm 15 to 3245 \pm 25 years ago, confirmed that these artifacts have their origin in the prehistoric period.

Playa Frans survey

During the survey of Playa Frans, historic artifacts and possible prehistoric artifacts were found. The marine shells may date from either the historic period or the prehistoric period. All these artifacts are surface finds and as such, sampling for radiocarbon dating was useless. Testpits would give a better view on whether or not possible prehistoric sites are present. However, as is mentioned earlier Playa Frans is not of core interest for the historic and prehistoric period.

Playa Funchi survey

During the survey of Playa Funchi only historic artifacts were found, like glass and building materials. As is mentioned earlier, Playa Funchi is of interest for the prehistoric period.

Labra survey

During the survey of Labra only historic artifacts were found, like stoneware, whiteware, different types of glass, building materials and metal. As is mentioned earlier, the Labra area is of interest for potential prehistoric period connections between Slagbaai and Gotomeer, however, the results suggest the more important period of research for this area is the 19-20th centuries occupation by African-descendant peoples.

General Conclusions

This 2010 archaeological research covered large parts of the Washington-Slagbaai National Park, which dominates the northwestern part of Bonaire. The northwestern part of the island has the hilliest landscape and is still the most undisturbed area from modern development, thanks to the creation of the Park in 1976. Washington-Slagbaai National Park represents a microcosim of 17th to 20th century historical developments on Bonaire. The main purposes of exploiting this vast land area having been economical, such as the procurement

of provisions, raising of goats/sheep, harvesting salt, producing charcoal, and the processing of aloe and dividivi. All of these economic endeavours were identified through numerous sites and artifacts during this 2010 survey. The results include; location of the 17th century Dutch fortification ruins, the saltpans, wells/dams, and various aloe processing structures, as well as importantly the main plantation house complex of Slagbaai with the old historic roadways to it. Even the less well-known early 20th century historic community called Labra, was recorded and identified for potential future Historical Archaeology research.

However by far, the most significant results of this BONAI-Leiden 2010 archaeological survey in the Slagbaai-Gotomeer area, relate to the Prehistoric Period, long before the arrival of Europeans. With the new radiocarbon data generated from these 2010 excavations, we can now state that the Slagbaai-Gotomeer Area was the foremost focal point for the earliest inhabitants of Bonaire, during the Archaic Age (Haviser *et al.* 2010; Haviser 2001). This radiocarbon data has now produced a new 'oldest' archaeological site for the island of Bonaire, at Slagbaai Salina #5, which dates to about 3600 years ago. Previously, the oldest archaeological site on Bonaire was at Lagun, and dated to 3300 years ago. Prior to this 2010 research, there were only three known Archaic Age sites identified for Bonaire, at Lagun, Gotomeer and Wanapa (Lac Bay), based on only five radiocarbon dates (Haviser 1991). After the 2010 research we have not only added Slagbaai to the list of Archaic Age areas, but more importantly we have added five new Archaic Age sites at Slagbaai, with two additional at Gotomeer, and increased the number of radiocarbon dates for the Archaic Age on Bonaire from 5 to 16. There is now much more certainty in saying that the Slagbaai-Gotomeer area was the focal point of the Archaic Age peoples on Bonaire, from about 3600-2100 years ago, with semi-nomadic movement around the island, but consistent re-visitation to Slagbaai-Gotomeer throughout the Archaic Age. Based on the shell types present in the excavations, it can be further suggested that both Slagbaai and Gotomeer had very large mangrove stands in the Archaic Age (whereas Lac Bay did not have mangroves then), which would be the primary attraction for food procurement (Haviser 2001).

One interesting question which has arisen from these results is the far less number of prehistoric Ceramic Age sites (circa 1500-500 years ago) identified in the 2010 survey. The few sites recorded in 1987 were re-located, with the exception of some destroyed by erosion, but no new Ceramic Age sites were noted. Nonetheless, a few of the low-fired coarse earthenware ceramics, diagnostic of the Ceramic Age, were reported at some of both the Archaic Age and Historic Age sites. It may well be that due to the shallow depth of these soils/excavations atop the limestone rock, the multiple-use sites by different time groups are very mixed, and we only sampled the apparent oldest shells (particularly large *Melongena* sp.) which thus produced more Archaic Age dates. It is our opinion that there were also Ceramic Age inhabitants at the Slagbaai-Gotomeer area, with particular association to the adjacent Put Bronswinkel Ceramic Age village site identified by Haviser in 1987.

One of the more important aspects of this research are the Radiocarbon-14 dates produced from carbon and shell samples excavated at the various sites. These new radiocarbon dates established that Slagbaai was in fact the oldest inhabited

location for the entire island of Bonaire, with human presence as far back as about 1650 BC (about 3610 years ago). These earliest inhabitants of Bonaire were the Archaic Age cultures of semi-nomadic hunters-gatherers, who did not know agriculture, nor the manufacture of ceramics. Based on the large number of sites discovered, the Slagbaai and Gotomeer bays were apparently a major focus of the Archaic Age people's attention. Some few other sites were also found representing later prehistoric Ceramic Age peoples, called the Caquetio, who arrived from Venezuela after about 600 AD. The Caquetios were agriculturalists, and thus their larger sedentary village sites tended to be more inland at good agricultural soils, with these two bays used more as resource extraction locations.

In the Historic Period, an early 17th century Spanish battery was built on the cliffs to the south, just above the plantation house of Slagbaai, these ruins can still be seen (Hartog 1997). The plantation house of Slagbaai was built in 1868, however extraction of salt from the inland bay had begun earlier, with many of the old salt pans still visible in the inland part of Slagbaai bay. Various archaeological features were identified in the Slagbaai-Gotomeer area, which represented different economic activities over time, such as; salt, aloe, divi-divi pods, charcoal, and particularly goat-herding/butchering which actually had established the name of Slagbaai. Another of the important functions of Slagbaai was the Customs House, due to the significance amount of ships that anchored to load goods here, with the old house still present.

One of the more interesting discoveries was the historical community of Labra, an extended family group of African-descendant Bonaireans living from agriculture and goat-herding. This isolated community existed within the early-mid 20th century. The numerous ruins of their houses, animal pens, gardens, and dams, will surely be the focus of continued future archaeological research in the park, having a specific Community Archaeology approach.

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Archaeological assessment at Bethlehem, St. Maarten

An early Valetta Treaty project in the Dutch
Winward Islands

*Menno L.P. Hoogland, Corinne L. Hofman and
R. Grant Gilmore III*

Introduction

This chapter discusses the archaeological assessment of the remains of a nineteenth-century sugar plantation complex on the grounds of the Bethlehem Estate, St. Maarten (St. Martin). This estate is presently owned by the heirs of William R. Plantz and is in the process of being developed and/or subdivided for a variety of land-use purposes by Bethlehem Real Estate Development NV (BRED NV). To this end a planning permit request has been prepared in consultation with island government representatives. BRED NV has agreed to make an effort to preserve the Bethlehem sugar estate ruins as a historic site, to be integrated in a park-like setting within the future adjacent developments, which will be open to the public on conditions yet to be determined. The ruins of several sugar plantations have been examined on the southern part of the island of St. Maarten over the past few decades (Barka 1993, 1998). However, only a few of these have been mapped into detail. Consequently, the opportunity to study another St. Maarten sugar plantation was welcomed for the cultural heritage preservation needs of the island as well as for comparison with sugar plantation sites on nearby St. Eustatius. The fieldwork was carried out from January 20th until February 6th, 2006 by a team from Leiden University, The Netherlands, and the St. Eustatius Center for Archaeological Research (SECAR) under the direction of the first author.

The archaeological assessment was aimed at acquiring all the information necessary for a responsible development as indicated above and as such had a limited scope. The assessment focused on a core plot of land of approximately 6,000 m² (1,5 acres) on which the remains of the original plantation house and its accessory buildings are situated. The surrounding area has been assessed only for

as far as this was necessary for orientation purposes. The purpose of the required assessment was to make recommendations to BRED NV concerning: (1) the boundaries of the area to be preserved, also in view of the natural properties of the terrain; (2) the conservation of the historic remains; and (3) the historical information to be disseminated to the visitors of the site.

Location and environment

Bethlehem Estate comprises approximately 660,000 m² (165 acres) and is located immediately south of the border between the northern and southern parts of the island of St. Maarten/St. Martin (Figure 12.1). The landscape is currently characterized by a seasonal thorny woodland vegetation. Cusha (*Acacia* sp.) dominates this vegetation. However, occasionally Black Cherry (*Randia aculeata*) and the thornless West Indian Cherry (*Malpighia emarginata*) trees are also quite numerous (Rojer 1997). Stem cacti (*Cephalocereus millsphaughii*) and a wide variety of additional xeric plants cover the hill slopes. The fauna at the site of the former estate is limited, as it is across St. Maarten. Bird species include doves, heron (*Butorides striatus*) and duck (*Anas bahamensis*). Lizards found at Bethlehem include the green iguana (*Iguana iguana*) and anolis lizard, which are indigenous to St. Maarten. Mammalian species are limited and only comprise the mongoose.

Except for two small hills, the lower eastern part of the estate terrain is generally level, while in the western portion the relief rises until the crest of Mount Flagstaff at approximately 381 m. The sugar estate industrial complex is to be found on one of the small hills in the east of which the top is approximately 70 m in diameter and reaches 37 m in elevation. The hilltop was leveled prior to the construction

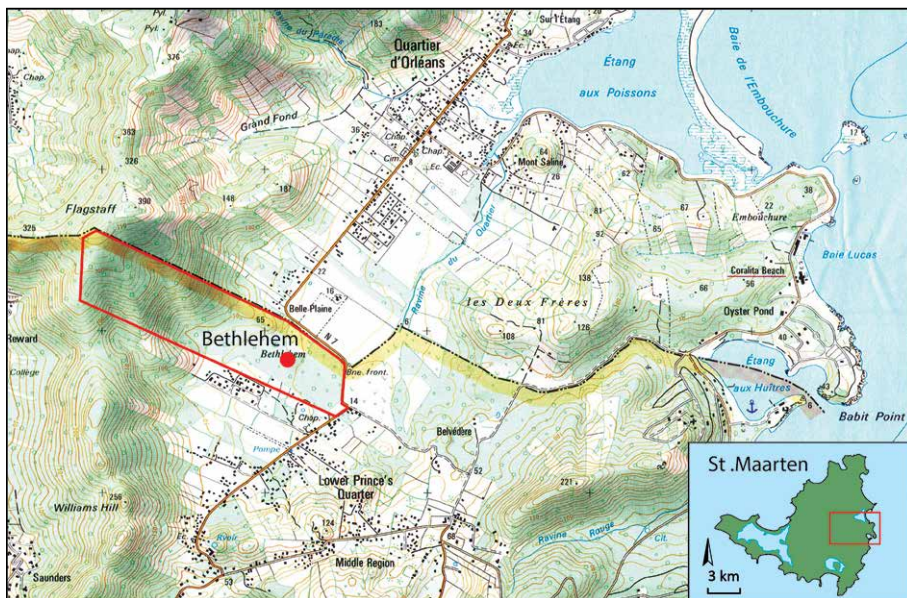


Figure 12.1: Map of the northeastern part of St. Maarten showing the location of Bethlehem Estate.

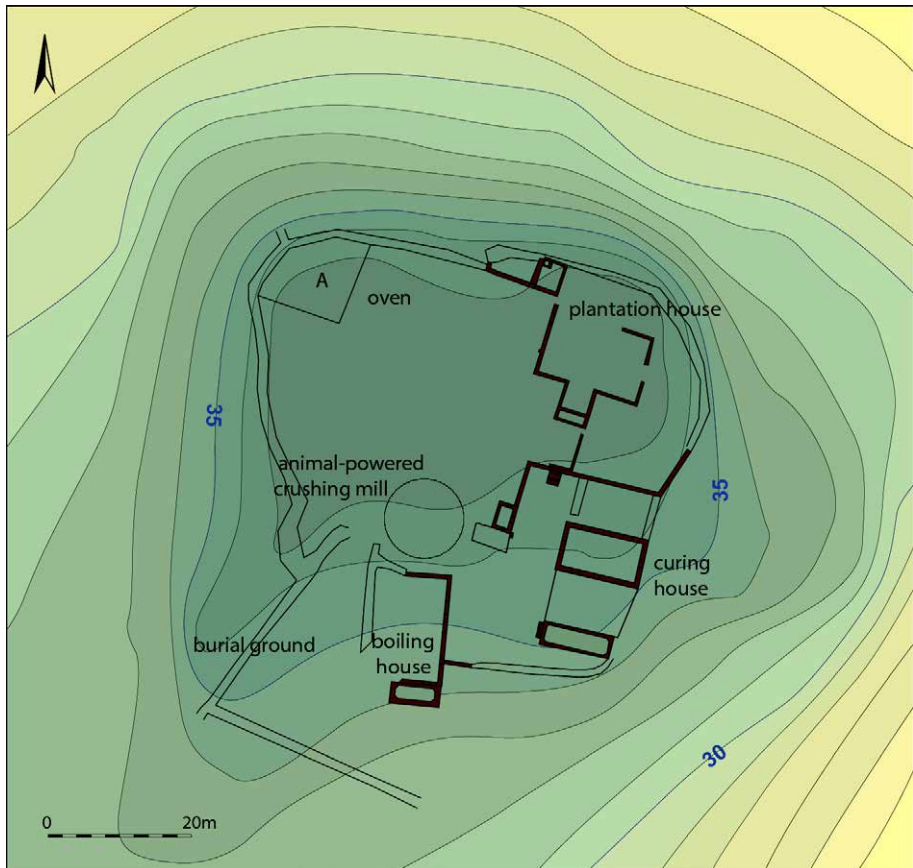


Figure 12.2: Overview of the plantation complex (drawing by Menno L.P. Hoogland).

of the sugar processing complex, the plantation house and its accessory buildings (Figure 12.2).

According to local sources, during the 1950s heavy equipment was used to clear and/or level the least elevated part of the estate and to excavate a series of ponds to be utilized as cattle watering holes. The hilltop location of the plantation complex inhibited damage by this work. The walls that served as the partitions of the agricultural plots have largely remained intact. Any buildings that may have been located at lower elevations were probably destroyed at the time. On the other hand, archaeological remains may have survived on the few smaller hilltops east and northwest of the hill of the plantation complex.

Historical evidence

The Spaniards introduced the cultivation of sugar cane to their Caribbean colonies in the early sixteenth century. By the 1650s the processing know-how was spread in the region due to Dutch merchants who saw the trading potential of cane sugar. Accordingly, in the seventeenth century sugar plantations were installed on most of the Windward and Leeward Islands.

The heyday of the cultivation of sugar cane on St. Maarten can be placed between 1775 and 1830. A Dutch West-Indian Company (WIC) commander of St. Maarten, Willem Hendrik Rink, mentions in a letter of about 1790 a total number of 92 plantations in the Dutch part of the island (Hartog 1981:63). The cultivation of sugar cane was the main objective of 35 of these plantations.

During Rink's administration St. Maarten's political and also its economic situation became unstable. In 1795 the Dutch Republic was conquered by France and so was St. Maarten. After 1801 the English occupied St. Maarten and it lasted until 1816 that the Dutch administration was restored. A report from 1818 mentions a number of 23 sugar plantations on the Dutch side of the island (Hartog 1981:92).

The sugar industry of St. Maarten started to decline around 1830 as a result of the introduction of the sugar beet, leading to strongly reduced prices on the world market, and the British actions against the Transatlantic slave trade which strongly affected the sugar cane industry since this largely depended on African slave labor. The impact of these developments was relatively strong on St. Maarten, given the small scale of its sugar estates and the fact that most planters also participated in the salt industry, which required many slave workers whenever a salt ship arrived, thereby disrupting the plantation work. What had remained of the sugar industry collapsed after slavery was abolished on the French side of the island, in 1848. Three years before the abolition of slavery on the Dutch side of St. Maarten (1863) only 11 plantations were still producing sugar (Hartog 1981:71).

In order to trace the history of ownership of the Bethlehem Estate relevant documentary evidence was searched for in the archives of Philipsburg and The Hague (National Archive). Mr. Patrick of the Public Land Registry Office (Stichting Kadaster en Hypotheekwezen St. Maarten) in Philipsburg was so kind as to draw our attention to two important nineteenth-century documents on Bethlehem Estate.

While it was not possible to undertake an extensive title research, it appeared that the history of ownership of Bethlehem Estate is quite complicated due to the frequent selling of the property. This included fusion with and fission from other sugar plantations and subsequent name changes. The name Bethlehem is first mentioned in a deed from 1835 and was given to the plantation after the fusion of the estates Reeds and Madame Barton. The latter was owned by Abraham Heyliger Pzn. from St. Eustatius who was appointed Vice-Commander of St. Maarten in 1748 (Hartog 1981:61).

This title deed, dated May 25th 1835, mentions that Ann Mary Fabio, the widow of William Cock, sold the plantation Bethlehem comprising of the former estates Reeds and Madam Barton to Julian Hector Dervin for Nf. 54,000. The property was bordered by the French-Dutch boundary in the north, by the land of John Joseph Romney in the east, by Union Farm Estate in the south, and by the Mildrums plantation in the west (Archive of Public Land Registry Office, no archive number). The following text is a summary in Dutch of the content of this document:

Gecompareerd zijn:

- *De heer Daniel French gemachtigd door vrouwe Ann Mary Fabio, weduwe wijlen den heer William Cock, ten ene zijde en*
- *De heer Julien Hector Dervin, wonende op het eiland Guadeloupe ten andere zijde.*

En verklarende de comparant ten ene zijde in zijnde voorschreven qualiteit, uit de hand te hebben verkocht, en alnu bij deze wettig af te dragen, te leveren en te transporteren aan en ten behoeve van den comparant ten andere zijde dewelke verklaarde gekocht en overgenomen te hebben

Een Suiker Plantage genaamd Bethlehem, voorheen Reeds en Madam Barton gelegen in het Princen Kwartier

Gebouwen

- *Een kook en keurbuis*
- *Een woonhuis*
- *Een kleine dito*
- *Een suikermolen met toebehoren*

Eenhonderd vier en zeventig slaven

- *35 mannen,*
- *65 vrouwen*
- *37 jongens*
- *37 meisjes*

Beestialen

- *Zes bullen en stieren*
- *Negen muilezels*
- *Tien ezels*
- *Een veulen*

Materialen en gereedschappen

- *Vijftien gistingvaten*
- *Twee koelbakken*
- *Zes goten*
- *Drie ezelsjukken*
- *Vier schuimpannen*
- *Een oude cappaos van de molen*
- *Een oude distelleerketel en helm*

Voor een somme van zeven en twintig duizend daalders courant geld van het eiland Sint Bartholomew of vier en vijftig duizend gulden.

A second document, dated March 12th 1838 (Figure 12.3), comprises an inventory of the plantation Bethlehem and was signed by H.J. Dervin and J. Petersen (Archive of Public Land Registry Office, no archive number). The purpose

of this document is not clear. It may have served as an attachment to a mortgage deed. The following text is a summary of this document.

Inventory of the sugar estate Bethlehem situated in Lower Prince's Quarter...

Buildings:

- *One boiling & still-house*
- *One curing & shed*
- *One dwelling house*
- *One small ditto or sick house*
- *One sugar mill, with two sweeps & appurtenances*

Slaves:

One hundred and sixteen slaves, consisting per annexed list in 18 men, 38 women, 31 boys and 29 girls.

Materials & implements:

- *Four sugar boilers*
- *One copper rum still with two wooden caps*
- *One receiver & two coolers*
- *Three ladles & three skimmers*
- *One liquor strainer*
- *Two pair mule crooks, & two pair broken ditto*
- *Etc, etc.*

Cattle and stock:

- *Nine bulls & steers as draughts cattle,*
- *Seven mules*
- *Twelve asses (donkeys)*

In comparison to the inventory of 1835, the number of slaves has diminished in three years from 174 to 116 slaves, a striking difference of 58 slaves, including predominantly women (27), next to men (17) and lesser numbers of girls (8) and boys (6). An explanation may be that in 1837 a British-Guianese agent visited the Dutch Windward Islands in order to buy slaves for plantation owners in Suriname and Berbice and approached the owner of Bethlehem Estate, Mr. Dervin (Paula 1993:66). It can be hypothesized that Mr. Dervin was forced to sell a number of slaves at the onset of the local sugar crisis. As a consequence of the nineteenth-century economic downturn property prices declined on St. Maarten. Bethlehem Estate, including 137 slaves, was sold in 1852 for only 12,000 Dutch guilders (Paula 1993:38-39).

A third document from the archives of the Public Land Registry Office evidences a fission of Bethlehem in 1891. In this document Robertine Maria Eliza Peterson declares to accept in purchase the Nazareth Estate, being two-fifth of the former sugar estate Bethlehem. According to the deed, Nazareth was bounded in the north by the Confidence Estate, being the other three-fifth of the aforesaid former Bethlehem Estate (Title deed, C5-1891/26). Mrs. R.M.E. Peterson was married to August Alexander van Romondt. The van Romondt's arrived on the island in 1802 and soon became one of its most influential families. Several van Romondt's served

G. C. C. C.
 Deven H. C. C.
 Tweede Afdeling
 Philipsburg St. Maarten
 12. March 1838
 (getuigen) H. C. C. C.
 P. P. P. P.

List of Slaves belonging to
 the Estate Bethlehem
 situated in lower principal
 Quarter Netherlands part
 of the Island of St. Maarten

Names	Male	Female	Total
Bella 1	1	0	1
Lidia 1	1	0	1
Mary 2	1	1	2
Quaco 2	1	1	2
Bella 3	1	0	1
Danael	1	0	1
Ursula	1	0	1
Janet 1	1	0	1
J. P. P.	1	0	1
Carrie Green	3	4	7

Names	Male	Female	Total
Carrie Green	3	4	7
John 1	1	0	1
John 2	1	0	1
Charlotte 1	1	0	1
John 3	1	0	1
John 4	1	0	1
John 5	1	0	1
John 6	1	0	1
John 7	1	0	1
John 8	1	0	1
John 9	1	0	1
John 10	1	0	1
John 11	1	0	1
John 12	1	0	1
John 13	1	0	1
John 14	1	0	1
John 15	1	0	1
John 16	1	0	1
John 17	1	0	1
John 18	1	0	1
John 19	1	0	1
John 20	1	0	1
John 21	1	0	1
John 22	1	0	1
John 23	1	0	1
John 24	1	0	1
John 25	1	0	1
John 26	1	0	1
John 27	1	0	1
John 28	1	0	1
John 29	1	0	1
John 30	1	0	1
John 31	1	0	1
John 32	1	0	1
John 33	1	0	1
John 34	1	0	1
John 35	1	0	1
John 36	1	0	1
John 37	1	0	1
John 38	1	0	1
John 39	1	0	1
John 40	1	0	1
John 41	1	0	1
John 42	1	0	1
John 43	1	0	1
John 44	1	0	1
John 45	1	0	1
John 46	1	0	1
John 47	1	0	1
John 48	1	0	1
John 49	1	0	1
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John 86	1	0	1
John 87	1	0	1
John 88	1	0	1
John 89	1	0	1
John 90	1	0	1
John 91	1	0	1
John 92	1	0	1
John 93	1	0	1
John 94	1	0	1
John 95	1	0	1
John 96	1	0	1
John 97	1	0	1
John 98	1	0	1
John 99	1	0	1
John 100	1	0	1

Figure 12.3: Pages 4 and 5 of the inventory of the Sugar Estate Bethlehem dated March 12th 1838 showing a part of the list of the enslaved Africans.

as lieutenant-governors in the nineteenth century and the family, which reportedly acted as informal bankers on the island, acquired a number of plantations. Most of them left St. Maarten in the early twentieth century, with the exception of D.C. van Romondt who died in 1946.

In 1898, Adriana Paulina Lincklaen du Cloux, the widow of Robert Peterson, had her last will made up, assigning Robertine Maria Eliza Peterson, apparently her sister-in-law, as the sole heir to Bethlehem Estate. She acquired the ownership on January 4th, 1905 (Title deed C9, 1905/35). By that time the Confidence Estate apparently had been renamed Bethlehem again, but without undoing the fission from its former part Nazareth. In any case it is known as such until at present. By this time Bethlehem Estate was involved in the cultivation of cotton. From 1902 until 1932 sea cotton was grown on St. Maarten. A picture taken around 1920 published by Hartog (1981:91) and the archaeological remains recovered on Bethlehem evidence that cotton was processed here as well.

In 1946 Mr. William Rufus Plantz, together with his brother-in-law Mr. Louis Leon Emile Beuperthuy, purchased Bethlehem Estate from the heirs to Robertine Maria Eliza Peterson (Title deed C18, 1946/79). A year later William Rufus Plantz bought the other half from his brother-in-law (Title deed C19, 1947/28). When he passed away in 1987, he left the estate to his wife and sons, and through them, to the present owners.

Results archaeological assessment

The plantation complex is located on top of a small hill of which the surface area has been enlarged by removing its upper part. The soil from the hilltop has been used to widen the complex and was held by a dry-laid stonewall. The enlarged hilltop, measuring about 3,500 m² (0,7 acre), held a primary residence and additional outbuildings as well as the industrial facilities of the sugar estate complex (Figure 12.2). The residential area was confined to the northern half of the hilltop while the sugar processing facilities were concentrated in the south. A sketch map of the estate complex was made by Barka (1993).

The scale of the estate complex is too large for a sugar plantation with the size of the present estate of approximately 660,000 m² (165 acres). The title deed dating from 1838 indeed reveals that Bethlehem originally formed part of the larger sugar plantations Reeds and/or Madame Barton. The information regarding fissions in 3/5 and 2/5 parts derived from the title deeds mentioned above indicates that the original Bethlehem plantation (including the present Nazareth Estate) measured around 110 ha (275 acres), a surface area that better suits the size of the complex.

Description of the residential structures

Plantation house

The plantation house or primary residence of the plantation owner/operator (the 'Great House') was located in the northeast quadrant of the hilltop (Figure 12.2). It was oriented on a north-northeast to south-southwest axis and faced the latter. The plantation house was located on the highest point of the entire complex offering a total view of the industrial facilities. From here, the platform is reached via a flight of five stone and brick stairs (Figure 12.4). The stairs lead to an open terrace paved with brick and square earthenware tiles likely originating from Spain or one of the Spanish territories in the region, which may have been recovered from the warehouses on St. Eustatius (Hartog 1964:366). Two stone columns with pyramidal caps flank the entrance to this terraced area (Figure 12.5). The columns are bonded with Portland cement, meaning that they date from or were repaired in the late-nineteenth century at the earliest. Such modifications and repairs are present throughout the site.

Beyond the terrace the ruins of the primary residence are to be found. The remains of stone foundations forming a rectilinear plan and measuring approximately 15×9.8 m on the exterior define the house. The enclosed space was approximately 145 m². The foundation is built of roughly finished volcanic basalt rock fragments faced on one side with smaller stones filling the core. This building technique is known as *ashlar* and was common on St. Maarten, St. Eustatius, and St. Kitts and Nevis (France 1984). According to local sources, these stone foundations supported an one-story wooden porched house with a traditional West-Indian tray roof until the middle of the twentieth century.

In view of the standard model found elsewhere on St. Maarten and St. Eustatius, the house was most likely divided into a front and a rear half with at least three chambers per section. The hall or entrance room was placed in the center



Figure 12.4: View of the foundations of the estate house (in front) and the curing house during the clearing of the site.



Figure 12.5: View of the entrance to the house site.

of the front section with flanking chambers on either side that may have been sleeping quarters or withdrawing rooms. The rooms in the rear half would have included sleeping chambers flanking a central chamber used for dining. Additional architectural information may be gained from targeted archaeological excavations.

Other domestic structures

Additional outbuildings associated with the primary residence may have included a kitchen, a privy building and storage facilities. Evidence of a contemporary kitchen includes a stone oven located towards the northwest approximately 22 m from the southwest corner of the residential structure. Another outbuilding measures 10.5×4.5 m and immediately abuts the northwestern corner of the main house. The function of this structure is not known and only excavations can establish this.

Description of the industrial structures

A complex of processing and storage buildings flanks an open corridor along the same north-northeast to south-southwest axis of the plantation house. The elevation in this area drops approximately 3 m to the south.

Curing house

On the southeastern side a building currently interpreted as the sugar-curing house is located. It measures approximately 2.5 m in height, 6.8 m in width, and 11.7 m in length. Only one entrance faces the open corridor. Seven windows, three on each long wall, provided daylight to the interior of this structure. One window on the southeast facing wall was filled. No roof remains are to be found on this structure, but the larger parts of the walls are still standing.

Cotton-processing facilities

Opposite the curing house, across the open area, two smaller adjacent buildings are to be found. One building was constructed in the same style as the curing house and apparently another one was added afterwards. The small dwelling house (belonging to the supervisor of the plantation?) and a sick house, mentioned in the nineteenth-century inventories cited above, may refer to these two smaller buildings. The entrances of both small buildings face east. Although the openings in the walls of the northernmost building are splayed, it is equally possible that the building was constructed from stone salvaged from older structures and that this construction technique was used following a traditional style dating back to the colonial period. One of the windows has been filled later in with stone and mortar.

In the early years of the twentieth century both small buildings had wind driven cotton-processing machinery constructed on top of them. At that time cotton was grown at Bethlehem. A steel windmill had been constructed on the walls of the southern building, while a small wooden shed measuring 2.9×3.8 m once stood on top of the northern building. The latter housed the cotton gin machinery. The driving gear remains of the windmill are scattered across the site. A postcard from the early 1920s depicts the windmill and the wooden shed with the machinery on top of the small building.

Cistern

South of the curing house a catchment area and a cistern are located. The catchment area measures 7×11 m, the cistern 2.5×9 m. The depth of the cistern is about 2 m and the capacity is about 45 m³. The cistern has been plastered and shows several signs of repair. Originally the cistern was covered by a vault, which had collapsed at the time of the survey.

Boiling house

The boiling house is 9.7 m wide and 15.7 m long. The eastern wall still stands well over 4 m in height. The western wall of this structure has been demolished to the ground surface. A section along the southern portion of this wall has recently fallen into the interior space of the building. The eastern wall is finished on the exterior with faced stones. A partly dry-laid and partly mortared wall abuts the exterior of this area of the eastern wall, forming an elevated terrace area. Along the southern end of this wall a section has been filled up with loose stones. Initially it seemed that the wall had just deteriorated in this area. However, further investigation showed that it could be an entrance to a cellar area.

On the interior of the eastern wall large floor joist holes are to be found confirming the idea that the southern part of this building consisted of a cellar and a first floor. This cellar was confined to this part of the building and measured about 4.5×4.5 m. It probably had the function of a storage facility. The first floor stretched over the entire length of the building and had at least three windows, allowing light into the work area. The size of the joist holes indicates that the floor once supported a substantial weight, a requirement in sugar processing facilities.

At the southern end of this structure a stone plaster-lined vat measuring 6.9×3.2 m is located. Structures like this are often mistaken for cisterns. However, there was never a roof covering this structure. Apparently, it was used as a cooling vat for the condensing worm (coiled copper tubing) associated with a rum distilling apparatus. Thus, the southern part of the structure was used for distilling rum. This is confirmed in the inventories cited above which mention a 'rum still'.

The northern end of the building abuts the wall that forms an elevated terrace upon which the animal mill once stood. There is no evidence of the fire train where the milled sugar juice was boiled to molasses and crystallized sugar. On the nearby island of St. Eustatius, the Fairplay Plantation had a similar arrangement of the sugar processing/rum distilling apparatus in relation to the sugar mill (Delle 1989). The sugar train at Fairplay abutted the distillery building on the northern side. At Bethlehem, the sugar train may have been located in a similar place on the western edge of the sugar-processing building. This area is now buried under a deep layer of glass beer bottles and other trash. A dry-laid wall was also built along this side hampering closer inspection of this part of the building. Probably it was a later addition dating from the twentieth century which formed part of a cattle pen.

At this stage of the research it can only be assumed that the fire train was situated in the northern part of the building, more specifically along the western wall with the opening of the furnace halfway the structure. The local relief here also suits the requirements for the construction of a sugar fire train. It was probably

demolished when the building was converted into a storage facility for the cotton processing industry. Only excavation will reveal the precise arrangement of the sugar processing aspects of Bethlehem.

Animal-driven crushing mill

An animal-driven crushing mill was located north of the sugar processing facility described above. Evidence for this structure includes several circular sections of mortared stone that form an outline 34.9 m in circumference and 11 m in diameter. This stone circle traced the exterior of the track followed by the animals as they walked in a circular fashion providing the mechanical energy to vertical hand-fed cane crushers located at the center of the crushing mill area. The resulting cane juice was likely directed to the sugar processing facility via a plaster lined channel of gutter. In view of the inventories cited above, bulls were used as draught cattle, at least in the 1830s.

Other remains

Several stone-mortared pillars have been found on the hilltop. One of them has been integrated into the northern section of the enclosing wall. Another one is situated west of the animal-powered crushing mill and may have functioned as the entrance to the residential area of the complex. In the northwestern part of the site some foundations have been encountered adjacent to the enclosing wall, that may also refer to alterations to the plantation complex which were made at one time or another. The dimensions and their precise location still have to be determined.

Burial ground

In the southwestern corner of the industrial compound a probable burial ground was identified. The assumed graves are marked with stones and have larger stones at the head and foot of each burial. The graves may date to the occupation of Bethlehem and may refer to former owners of the estate. It is unlikely that slaves were buried in such close proximity to the industrial area and the owner's home.

Agricultural walls

A network of dry-laid stonewalls originally partitioned the separate areas of the plantation site. These older walls are generally a little over 1 m in width at the base. For the most part, they are quite low to the ground; however, in a few places the walls have remained intact. The upper surface is piled with smaller stones forming a gently curved surface. It is very rare to find drywalls still intact after very little maintenance has occurred, making these walls at Bethlehem quite unique. A drywall, of which the western and southern parts are very well preserved, also surrounds the industrial/residential area at Bethlehem. These walls provided a physical and mental barrier between the working/living area and the surrounding cane fields.

The industrial/residential complex also includes drywalls that probably were used as cattle-pens after the cotton industry collapsed early in the twentieth century. Examples are the walls between the curing house and the plantation house platform. These walls have no relationship with the colonial period of the plantation.

Artifacts

Surface artifact scatters can be found throughout the site. As mentioned above iron gears and other machinery related to the cotton industry were found scattered near the boiling house. A large riveted sheet iron tank was found in an upright position immediately adjacent to the curing house's eastern wall. The tank was likely used for some aspect of the cotton manufacturing process. Additional modern artifacts include a vast array of modern trash primarily consisting of glass bottles, scattered throughout the site.

Colonial-period artifacts were found in discrete scatters outside the industrial/residential compound about 20 m to the north. These artifacts include a variety of European lead-glazed coarse earthenware, pearlware, creamware and wine bottle fragments. No evidence of Afro-Caribbean pottery was identified on the surface at the surveyed part of the site. The only artifact related to the sugar manufacturing process is a broken boiling pot or 'copper' found on the surface north of the animal-powered crushing mill. Norman Barka (1993) also noted this artifact when visiting the Bethlehem site.

Conclusions and recommendations

The Bethlehem sugar estate is an excellent example of a cane sugar-processing complex common in the northeastern Caribbean. It is relatively small in scale when compared to those found on the larger islands. However, it is comparable to those found on Nevis or St. Eustatius. While the latter island primary had developed into a trading station in the heydays of the plantation era, the St. Maarten economy partly depended on the salt industry, also utilizing plantation slave workers, which resulted in an even smaller scale of the sugar estates. Originally the complex of processing and storage buildings of the Bethlehem sugar plantation could have been built as facilities of the smaller estates of Reeds or Madam Barton. A preliminary study of documents in the Public Land Registry Office confirms that there are ample archival documents available to reconstruct the history of the estate and a more profound archival study in the National Archives of the Netherlands in The Hague can possibly reveal the history of Bethlehem in greater detail. The excellent preservation of the remains and the rich archival evidence makes the site of Bethlehem a valuable part of the cultural heritage of St. Maarten which deserves careful management in the near future.

Recommendations for management

One of the destinations of the site can be a public park. For an allocation as a public park some basic maintenance is sufficient. This includes the clearing of the entire hilltop of the current vegetation except for the fruit and tamarind trees and the removal of all modern trash (beer bottles, bags, etc.) so that only those artifacts remain that belong to the cotton and sugar processing periods. Sections of walls of the buildings with loose stones should be repaired using a traditional lime mortar. Repointing the stonework should consolidate the walls of the structures. On top of the walls lime mortar should be applied between the stones to consolidate this section of the walls. This method is preferred to applying a slab of mortar to cover the complete top of the walls. The dry-laid stone walls dating from the colonial period should be integrated into the future developments and damaged sections should be restored. These are situated in the western and southern parts of the terrain. The foundations of the plantation house and the undetermined foundation in the western part of the hilltop should be marked in order to prevent further destruction and enhance their visibility. The assumed burial ground should be clearly marked and the stones marking the burial sites should be restacked.

However, the colonial complex is too extended to expect that low maintenance will be sufficient for adequate preservation of the site on the longer term. Another consideration is that the complex is situated on a prime plot of land calling for a more economic allocation such as a hilltop restaurant or a clubhouse for the cricket stadium that has been planned nearby. For such a purpose a building could be designed in a style similar to that of the original plantation house. In addition, the curing house could either be reconstructed or provided with a roof not connected to the existing walls (to maintain authenticity) to facilitate an outdoor bar or dining room. Such an allocation may be expected to generate the motivation as well as the financial means that will be necessary to sustain the complex in the long term. This will require regular maintenance of the historical remains after the above mentioned conservation measures have been taken.

Prior to any construction works at the site, in-depth archaeological research should be carried out, since some portions of the site require further archaeological research, involving excavations to confirm or correct the above interpretations and to extend our knowledge of its history. This recommendation especially concerns: (a) the interior of the boiling house in order to find evidence for the fire train; (b) the area of the animal-powered crushing mill to find evidence of a roof structure; (c) the assumed burial ground; (d) the interior of the plantation house to obtain additional architectural information; (e) the area in the western part of the terrain, where the undetermined foundations have been recovered (Area A on Figure 12.2); (f) the enclosed area south of the plantation complex; and (g) a wider area around the hilltop which should be surveyed in order to locate the remains of slave huts and slave graves, which must have been present on the estate. One of the possible locations for slave huts is the little foothill east of the assessed hilltop.

Final remarks

Bethlehem Real Estate Development NV (BRED NV) should be commended for having brought in professional archaeologists to examine this property. Preservation of the rich cultural heritage of St. Maarten cannot only be well combined with economic progress but can also add to the quality that is necessary for a sustainable economic development of the island.

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An ‘Emporium for All the World’

Commercial archaeology in Lower Town, St. Eustatius

Ruud Stelten

The change in political status of Bonaire, St. Eustatius and Saba (the BES islands), which became special municipalities of the Kingdom of the Netherlands on October 10, 2010, brought about an explosion in commercial building activities on St. Eustatius (affectionately called Statia by the local population). At the same time, new laws governing the archaeological heritage were implemented.

The St. Eustatius Center for Archaeological Research (SECAR) was founded in 2000 to conduct research on the island’s rich cultural heritage through archaeological field schools. Since the constitutional change on the BES islands, SECAR has also been conducting commercial archaeological work on the island. A large number of commercial archaeological projects all over the island were carried out by the author over the last two years, including work on former sugar plantations, the historic town center of Oranjestad, and Lower Town, the island’s former commercial port district. It is the latter area that produced some of the most interesting research results of the last few years. This chapter will present and discuss the results of various archaeological projects carried out in Lower Town, which is believed to have the densest concentration of archaeological remains of any area of comparable size in the Americas (Dethlefsen *et al.* 1982).

Lower Town in St. Eustatius’ history

St. Eustatius was first permanently settled by the Dutch in 1636. Upon arrival, the colonists found a deserted French fort which they strengthened and named Fort Oranje. The settlers started growing sugar cane, coffee, tobacco, indigo, and cotton. Agriculture remained the mainstay of the island’s economy until the end of the seventeenth century. In the seventeenth century settlement most likely consisted of scattered farms around the fort. The habitation of St. Eustatius was divided between Upper and Lower Town, the former being restricted to the cliffs, while the latter was located at the base of the cliffs on the island’s leeward shore (Figure 13.1).



Figure 13.1: Lower Town as it appeared in 1774. Top: view to the south with the weighing house (blue roof) and the headquarters of the Dutch West India Company directly behind it in the foreground, and the Dutch Reformed Church and Fort Oranje on the cliff to the left (Source: Algemeen Rijksarchief, 4.MIKO 313).

Even though Statia's prosperity increased steadily, it was probably not until the beginning of the eighteenth century that urban development started to take place. Construction in Lower Town, however, already commenced in the seventeenth century. The historic records mention a warehouse for the storage of tobacco as early as 1639. By 1658 there were several well-stocked warehouses on the island (Attema 1976:18). In his work *Histoire naturelle et morale des îles Antilles de l'Amérique*, published in 1658, Charles de Rochefort wrote that on the island 'there are also storehouses so well furnish'd with all things requisite to life.' Although the locations of these warehouses cannot be determined from the documents, it is likely that they were located in Lower Town as their proximity to the sea would have made it easy for ships to pick up the products stored in them.

Several steep paths connected Upper and Lower Town. The latter started to become a trade locus towards the end of the first half of the eighteenth century. Various mid-eighteenth-century maps and drawings show several structures along the shores of Oranjestad Bay and Gallows Bay. In the mid-eighteenth century Lower Town was enlarged in typically Dutch manner, namely by reclaiming land from the sea. It was not until the second half of the eighteenth century, however, that Lower Town started to grow significantly. In 1756 St. Eustatius was made into a free port, causing an increase in trade and building activities which resulted in the construction of a 1.5 km long row of some 600 buildings, including two-storied warehouses, shops, trading offices, merchant homes, brothels, and taverns along the bay. Due to steady population growth, housing on the island was limited and renting a house was very expensive. After 1760 this caused merchants to build houses on the bay, some of which were of palatial dimensions. To protect Lower Town from the devastating swells during the hurricane season, an underwater wall was built about 60 m offshore that served as a wave barrier.

An account from the Scottish lady Janet Schaw dating to 1775 describes Lower Town as a non-stop market displaying goods of different types and qualities sold by people from all over the world:

'From one end of the town of Eustatia to the other is a continuous market, where goods of the most different uses and qualities are displayed before the shop doors. Here hang rich embroideries, painted silks, flowered Muslins, with all the Manufactures of the Indies. Just by hang Sailor's Jackets, trousers, shoes, hats, etc. The next stall contains the most exquisite silver plate, the most beautiful indeed I ever saw, and close by these iron pots, kettles and shovels. Perhaps the next presents you with French and English Millinary wares. But it were endless to enumerate the variety of merchandise in such a place, for in every store you find every thing, be their qualities ever so opposite.' [Schaw 1921:137]

Gallow's Bay, at Lower Town's southern end, was not only the place where criminals were hanged, but likely also the location of a shipbuilding yard. The historic records mention repairs being made to pirate ships on St. Eustatius. This was probably done in Gallow's Bay, as here the Lower Town Road ends and there used to be a sloping beach, ideal for the hauling of ships.

After 1760 the number of ships arriving on Statia numbered between 1800 and 2700, reaching a maximum of 3551 ships in 1779. While many came from Europe, Africa and the Americas, the regional inter-island trade played an important role in the island's economy. Almost 20,000 merchants, slaves, sailors, and plantation owners were crowded on this small island in its heyday (a large proportion of these were temporary residents). In the 1770s imports exceeded the capacity of the island's warehouses and sugar and cotton were piled up high in the open air (Klooster 1998:96). This was the time at which St. Eustatius reached its greatest prosperity and earned its nickname *The Golden Rock*. Nearly every merchant in the late-eighteenth-century Atlantic World knew of the island, and in the House of Commons Edmund Burke even called it 'an emporium for all the world, a mart, a magazine for all the nations of the world.'

Due to the mercantilist policies of several European nations and St. Eustatius' proximity to many of their colonies, the island was in an excellent position to ship illegal supplies such as sugar, tobacco, foodstuffs, gunpowder, and weapons to these territories. This illicit trade between the Caribbean islands, the Spanish-American mainland and the North American colonies is termed the *kleine vaart*. On Statia this took on enormous proportions. For example, around 1770 Statia produced about 270,000 kg of sugar annually, but it exported 9,000,000 kg. The remaining 8,730,000 kg were brought over from other islands and sold tax free on St. Eustatius to maximize profits (Gilmore 2004:49). Weapons and gunpowder, originally coming from Europe, were shipped in great numbers to the English colonies in North America in exchange for commodities such as sugar and tobacco. This trade reached its peak during the American War of Independence. Even the English merchants on the island were willing to sell whatever the enemies of their country needed. In 1775 the export of arms and war equipment to North America from Dutch ports was forbidden by the Dutch government under pressure from Great Britain, but on Statia this was ignored and the illicit trade continued to

flourish. This is aptly illustrated by a letter from Abraham van Bibber, the Maryland agent on the island, written to his superiors, saying: ‘obedience to the law would be ruinous for the trade.’ Gunpowder was shipped in boxes labeled as tea or in bales labeled as rice, officials were bribed and the control by customs officers was faulty (Goslinga 1985:144).

After the British sacked the island in 1781 during the Fourth Anglo-Dutch War, trade recovered and the island’s economy flourished once more. Around 1795 the importance of St. Eustatius as a transit harbour declined. The United States had become independent and trade moved to North America and neighboring islands. To make matters worse, the end of the slave trade was looming. On top of all this the French captured the island in 1795. The French policies governing trade inhibited the free transactions that had built the island’s wealth. These events signaled the end of prosperity on what a mere fifteen years earlier was the richest trading centre in the Caribbean. Lower Town’s warehouses were abandoned and left to the elements, and merchants either left the island or moved to Upper Town. Devastating hurricanes in the late-nineteenth and early-twentieth centuries destroyed many buildings. In the nineteenth century the island’s inhabitants complemented the destruction by exporting tens of thousands warehouse bricks in order to generate some income. The island that was once known as one of the leading ports of the world became an almost forgotten community.

Site formation processes

Archaeological remains in Lower Town have been affected mainly by two natural processes. The first is the erosion of the cliffs below which the town was built. Heavy rainfall during the hurricane season frequently causes parts of the cliffs to slide down, thus burying the ruins. Close to the cliffs, all ruins are buried and overall these are in a very good state of preservation. The second natural process is destruction caused by strong swells and winds during the hurricane season. Swells crash into the shoreline and over time aid in the disintegration of the historic ruins. On the seaside of Lower Town many ruins are exposed. After nearly every strong swell, parts of the ruins break off. For instance, the Great Hurricane of 1780, the deadliest Atlantic hurricane in recorded history, caused much damage on St. Eustatius. A contemporary observer noted that many warehouses were destroyed, numerous ships were sunk and a large number of people died during the hurricane which lasted from October 12 to 22. It was said that the damage was indescribable.

Legal protection of archaeological remains

In 2011 the St. Eustatius island government adopted the St. Eustatius Spatial Development Plan. One of the main goals of the Spatial Development Plan is to provide legal guidelines during future construction projects in order to enable the protection and management of archaeological and natural resources. In this plan, all areas on the island are designated a particular zoning. Besides zonings such as residential, commercial, or nature, an area can have a second (or double) zoning for archaeology. In these areas, development may only take place if it does not have

a negative effect on the archaeological remains present. Exceptions to this rule can be made by the government of St. Eustatius if the added value of the development for the island, of for instance economical or recreational character, outweighs the importance of preservation of the archaeological remains. The government of St. Eustatius has to contact an individual or organization with archaeological expertise before granting a permit for development in these specific areas.

To date SECAR has always been the organization which carried out any commercial archaeological research. Even though no archaeological standards such as the Dutch quality guidelines (KNA) have been determined on the BES islands yet, SECAR aims to conduct archaeological research as much as possible in line with the KNA.

Previous research

Previous archaeological work in Lower Town was carried out between 1981 and 1984 by archaeologists of the College of William and Mary, Williamsburg, Virginia (Barka 1985). A plan drawing of the entire area was made and each site was assigned a number. In addition, several test units were excavated in order to gain a better understanding of the area's stratigraphy, the state of preservation of various structures and deposits, and the functions of particular structures (Barka 1985). It was found that the stratigraphy was very complex throughout the area. The vast majority of artifacts in Lower Town eroded from deposits in Upper Town, and dated predominantly to the late-eighteenth and early-nineteenth centuries. Many structural features were found in test units on the cliff side immediately north of the Bay Path, including stone walls and various types of pavements. These were in a much better state of preservation than the ruins on the seaside. A test unit on a seaside structure, however, yielded good evidence of stratigraphy and a yellow brick floor. Below the floor, various early-eighteenth-century artifacts were found, indicating that in at least some instances the destruction by waves to the archaeological deposits is not as great as one might think. Soil layers above the floor, however, indicated that the upper part of the site was disturbed by natural processes, which was further evidenced by a mixture of eighteenth-, nineteenth-, and twentieth-century artifacts found in the deposits.

Fiber-optic cable

In December 2011 a 450-m long trench for a fiber-optic cable was excavated between the Bay Path and Smoke Alley in Lower Town. The fiber-optic cable would connect St. Eustatius to neighbouring St. Kitts and provide a faster internet connection to the island. The St. Eustatius Spatial Development Plan marks the entire Lower Town area as having a double zoning for archaeology. The trench was nevertheless excavated without a permit and thus without any input from an archaeologist. SECAR managed to put a halt to the excavations until the developer agreed on the presence of an archaeologist during the work. The next two weeks, the author monitored the excavations closely and documented all exposed archaeological remains with the help of Dr. Jay B. Havisser of the St. Maarten

Archaeological Center (SIMARC). This limited time frame was imposed by the contractor, whose work consisted of excavating the trench, inserting the fiber-optic cable, and closing it up immediately. Due to the short amount of time available for the archaeological work, it was decided to focus on four things: making sure no damage was done to structural features by the backhoe, photographing and drawing all structural features, and collecting all artifacts larger than a thumbnail from the spoil heap in 10 meter zones, with the help of volunteers.

A total of 37 structural features were documented during the watching brief. These included demolished and intact walls, floors, drains, steps, a vat, and a cistern (Figure 13.2). These features can be described as follows.

- *Feature 1.* Vat made of red and yellow bricks. The inside is covered with a layer of plaster of 1-2 cm thickness. Given the vat's location, orientation and type of construction, it is unlikely to be a cistern.
- *Feature 2.* Yellow brick wall built against Feature 1.
- *Feature 3.* Yellow brick steps built against Feature 2.
- *Features 4 and 5.* Floor of orange tiles. The tiles measure 25×13×5.5 cm.
- *Feature 6.* Yellow brick wall with red bricks at the base. This feature is probably part of the same structure as Features 2, 3, 4, and 5.
- *Feature 7.* Basalt stone wall with a basalt stone tile to the right.
- *Feature 8.* Floor made of orange tiles and yellow bricks, and a probably basalt stone wall to the right. The orange tiles measure 22×22×3 cm. From 23-25 m, the floor was partly destroyed by the excavator.
- *Feature 9.* Basalt stone wall, destroyed by the excavator but still visible in the profile.
- *Feature 10.* Yellow brick wall. The part on the right was pulled off by the excavator.
- *Features 11, 13, 14, 15, 18, 24, 26, 32, and 37.* Basalt stone wall.
- *Features 12 and 20.* Wall made of basalt stones and yellow bricks.
- *Feature 16.* Cistern made of yellow and some red bricks. The yellow bricks are positioned on their sides.
- *Feature 17.* Collapsed wall made of yellow and some red bricks. The yellow bricks are positioned on their sides.
- *Feature 19.* Basalt stone wall. The stones on the right are faced.
- *Feature 21.* Yellow brick wall that drops steeply after one row of bricks.
- *Feature 22.* Collapsed wall made of basalt stones and fragments of red brick. Several fragments of glass and ceramics are embedded in the mortar.
- *Feature 23.* Wall made of red and yellow bricks on the inside, basalt stones on the right, and soft mortar on the left.
- *Feature 25.* Floor made of mortar and stone covered with plaster.
- *Feature 27.* Floor made of mortar with fragments of red brick, approximately 2 cm thick.
- *Feature 28.* Wall made of yellow and red bricks.
- *Feature 29.* Red brick wall.
- *Feature 30.* Wall made of cut basalt stones. To the left a layer of stones was removed by the excavator.

- *Feature 31.* Collapsed wall made of red and yellow bricks and basalt stones.
- *Feature 33.* Floor of orange tiles.
- *Feature 34.* Steps made of cut basalt stones and yellow bricks.
- *Feature 35.* Possible drain.
- *Feature 36.* Plastered drain.

Many of the structural features are undoubtedly part of the warehouses that dotted the island's leeward coastline in the late-eighteenth century. The excavation uncovered features made of a large variety of building materials, similar to the exposed ruins found on the other side of the Lower Town Road. It was not possible to link any features to specific buildings known from the historic sources. Very little stratigraphical information was recorded due to the extremely limited time frame of the project. Nevertheless, it became clear that the ruins were covered by a 60-80-cm thick layer of materials eroded from the cliffs. This facilitated the preservation of the structural remains.

A total of 1421 artifacts were collected during the watching brief. These included 281 pre-Columbian ceramics, 57 faunal specimens, 745 historic ceramics, 166 glass fragments, 160 metal objects, ten stone artifacts, and two composite objects.

The historic ceramics were subdivided according to ware types; the main categories were: refined or coarse earthenware, ironstone, stoneware, and porcelain. Most of the ceramics included refined earthenware, either white or other types. A large portion of the ceramics was coarse earthenware; there were smaller numbers of porcelain, stoneware and ironstone. The largest sub-assembly for refined earthenware was for white body ceramics. These 331 artifacts included examples of a variety of ceramic types that reflect activity throughout the historic period. Creamware ($n=100$) and pearlware ($n=136$) made up the majority of this ware type. For other refined earthenwares, the largest categories were tin-glazed and

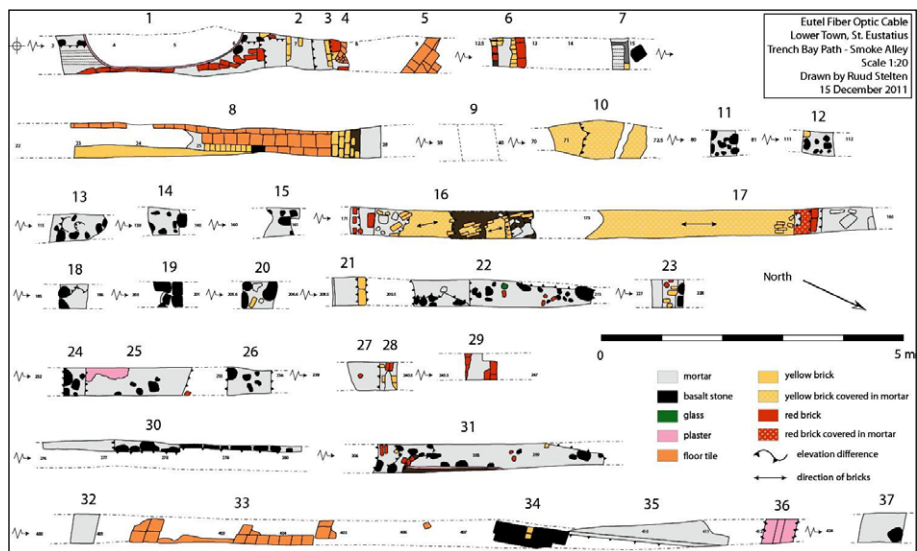


Figure 13.2: Plan drawing of the Lower Town fiber optic cable trench, showing numerous structural features, indicated by Nrs. 1-37.

kaolin; kaolin was composed solely of tobacco pipe fragments (stems and bowls). Coarse earthenwares were mainly red, with smaller numbers of buff body wares, and Afro-Caribbean wares. Porcelain included a variety of types, from examples of Chinese export porcelains to bone china and modern hard and soft paste porcelain. Stoneware comprised examples of buff, brown, grey, and white stonewares.

Glass and metal were the next largest material types. There were 166 glass items and 160 metal objects. Glass was subdivided according to color; there were small numbers of a variety of glass types, but the vast majority was dark green. Most of these were examples of free blown or mold blown bottles. Other glass types were colorless, green, light green, manganese, blue green, aqua, olive green, and turquoise in color. These types included some examples of machine made bottle and jar glass as well as free blown and mold blown forms. There were also a few examples of press molded table glass.

Metal objects were also sub-divided by material type; all except three items were made of iron. The remaining three items were of a copper alloy. Most of the iron objects were nails or nail fragments. Some were identifiable as either machine cut or hand wrought, but many were too corroded to make a clear identification. Some other metal objects were too corroded for identification as well. There were a few cast items, including two cannonballs, and several molded objects. The copper alloy objects appear to have been press molded.

The 56 faunal specimens included mammal bones and teeth, marine and terrestrial shells, and fish bones. The stone sub-assembly included examples of coral, granite, slate, and volcanic stone.

Pre-Columbian artifacts (Figure 13.3) comprised two lithic objects and 281 ceramic sherds.

The vast majority of artifacts were not associated with any structural feature(s). All documented features were covered by approximately 60-80 cm of eroded material from the cliffs. Nearly all artifacts came from this layer, and are thus not associated with the activities in Lower Town as the research in the 1980s had already pointed out.



Figure 13.3: Pre-Columbian artifacts found underneath the King's Well. Left: stone axe fragment. Middle: anthropomorphic adorno. Right: Saladoid white-on-red painted ceramic sherd.

Feature 1, although fairly similar to a cistern, is not interpreted this way. The structure's square shape and size do not correspond to those of other cisterns in Lower Town. The structure also shows no signs of a vaulted roof similar to those found on cisterns. Furthermore, an expansion of the trench around Feature 1 uncovered a yellow brick floor, indicating that people walked around the structure, thus pointing to industrial use. Based on this, the structure is interpreted as a vat that was used in the production and/or storage of an as yet undetermined liquid.

A large number of faunal (mammal) remains were uncovered between Features 34 and 36. These remains were excavated from an archaeologically intact layer and are associated with activities carried out in the area. Feature 36 was a plastered drain, while Feature 35 might have been a drain as well. The faunal remains combined with the structural findings suggest that this structure may have been a slaughterhouse, whereby the drain(s) would have been used to channel the slaughtered animals' blood to the sea.

The material collected from underneath the King's Well included 281 Amerindian ceramics. These artifacts reflect both flat and hollow form vessels, griddle fragments, and one anthropomorphic *adorno*. The ceramics include plain or undecorated examples as well as burnished, red-slipped, red-slipped and burnished, white-on-red-painted, and black-and-white-on-red designs. One mammal and two turtle bones were also collected, along with one volcanic groundstone axe fragment and a volcanic cobble tool. These artifacts were found in a shell midden underneath the colonial structures, starting at a depth of about 2.5 m. The ceramics point to a Saladoid to post-Saladoid occupation. This site is almost certainly part of the Smoke Alley prehistoric site, which has now been shown to be larger than previously thought. Given its depth and the fact that another seventeen prehistoric ceramic sherds were found throughout the trench, it is likely that the site continues further south and may underlay a large part of the Lower Town ruins.

Other projects

In March 2013 over 150 meters of cliff erosion was excavated at Lower Town's northern end for the construction of a new parking area. The 2-day excavation was monitored by the author, who recorded an historic cistern, two historic walls with associated yellow brick floor, a single historic wall, and a rum distillery.

It was not possible to link the walls and floor to any specific building known from the historic records. The cistern was found to be in a very bad state of preservation; only a small part was still fairly intact, and all the face stones and the vaulted cover were gone. During a survey of the Lower Town ruins, the author recorded a total of sixteen cisterns, but there are undoubtedly many more to be found underneath the eroded material from the cliffs. The large number of cisterns and a total of four wells in the Lower Town area indicate that maintaining an adequate water supply was a very important aspect of life on this part of the island. Not only did the local population collect water for their own consumption, the tens of thousands of sailors calling at St. Eustatius each year would have to be supplied as well. On a dry island like Statia, making sure that each drop of rain was

collected was very important and in Lower Town much needed warehouse space was traded to make room for cisterns and wells.

The rum distillery was found in a vertical cliff face, making it impossible to excavate the structure completely without compromising the integrity of the cliff face (Figure 13.4). It is made of cut basalt stones and some yellow bricks. The front part is in a very good state of preservation. The structure is 247 cm wide, with a 43-cm wide and 83-cm deep stokehole. The molasses vat on top was destroyed at some point of time in the past. The wall to the right may have been part of the distillery complex, although this could not be determined. An approximately 8-cm thick intact archaeological layer consisting of ash and charcoal was found in front of the distillery. These materials undoubtedly came from the stokehole. Underneath this layer, a compact natural layer was encountered which probably served as the original walking surface. Artifacts found in the eroded material covering the structure included many late-eighteenth- and early-nineteenth-century case gin and wine bottles and several different types of ceramics.

After a heavy rain storm, another rum distillery was found in May 2013 by the author in Lower Town's southern part (Figure 13.5). Protruding through the cliff face behind the diesel generators that power the island, it posed the same excavation problems as the other distillery. The front part of the structure is 197 cm wide, with a 41-cm wide and 52 cm deep stokehole. It is made of cut basalt stones and some yellow bricks. The lower part of this distillery was partly destroyed, but part of the molasses vat on top is very well preserved. The vat is made of yellow bricks and shows a red brick bottom. As the area in front of the distillery has frequently been bulldozed to keep the diesel generator buildings clear of eroded materials from the cliffs, no intact archaeological layers were present in front of the structure. No artifacts were found during excavation and cleaning.

Conclusions

From the archaeological research in Lower Town it has become clear that a wider range of activities were carried out in this area than previously thought. The presence of a possible slaughter house, two rum distilleries and a type of production vat indicate that, besides commercial activities, a number of industrial and other activities were carried out in the area as well. Furthermore, a significant area of Lower Town was dedicated to the collection and storage of rain- and groundwater. The vast majority of artifacts found during the investigations was eroded from Upper Town, and are thus not associated with activities at the waterfront. The discovery of a prehistoric shell midden underneath the King's Well and the presence of several more fragments of prehistoric ceramics throughout the trench indicate that evidence of Amerindian activity may be found underneath historic ruins throughout Lower Town.

The preservation of the historic remains, both structures and archaeological deposits, was found to be very good close to the cliffs. Historic records, maps and artwork indicate that several hundred structures were present in late eighteenth-century Lower Town. Many of these are covered by a thick layer of eroded materials, causing them to be very well preserved. It is expected that during future

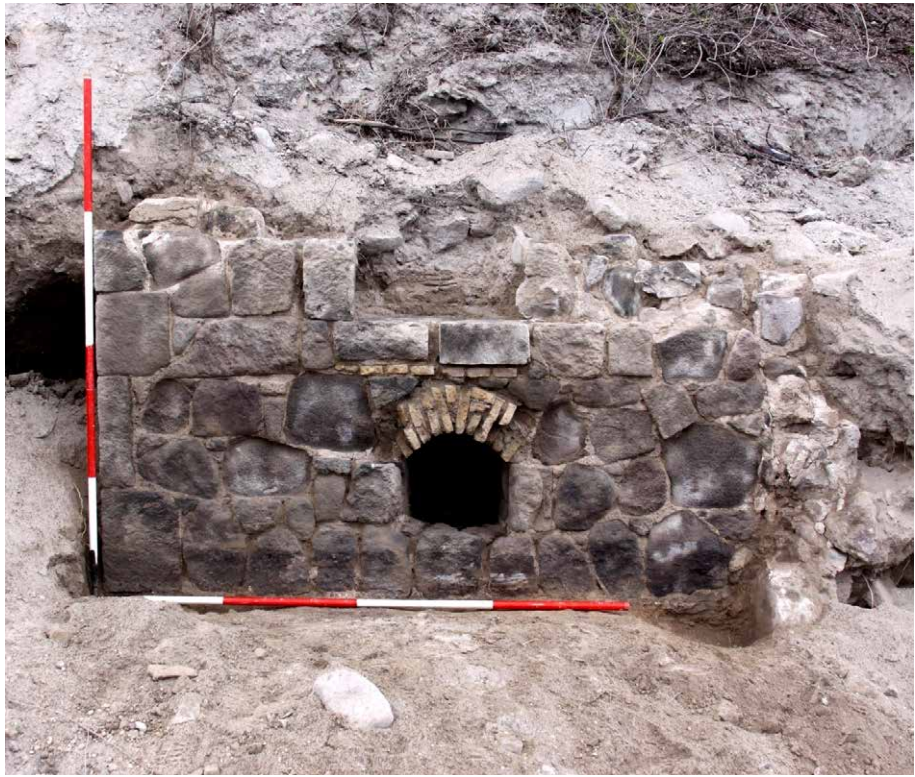


Figure 13.4: Rum distillery found in Lower Town's northern part. Scale bars: 2 m.



Figure 13.5: Rum distillery found in Lower Town's southern part. Scale bar: 1 m.

construction projects and after heavy rainfall many more archaeological remains will come to light. The past two years of commercial archaeology has only begun to scratch the surface of what is to be found in Statia's Lower Town. As the first historical archaeologists on the island said in the early 1980s, St. Eustatius truly is 'the Pompeii of the New World.'

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Three early examples of Valetta Treaty application in the Dutch Windward Islands

Jay B. Haviser

Introduction

This chapter reviews three examples of early Archaeological Heritage Management (AHM) application of the UNESCO Malta Convention 1992 (Valetta Treaty) from the Dutch Windward Islands of St. Maarten (St. Martin), Saba and St. Eustatius. These three case studies (Breadline Site, Saba, Joremi Survey, St. Eustatius, and Rockland Site, St. Maarten) were selected as being among the earliest formal applications of the Valetta Treaty on the islands after the new constitutional status of 2010, and additionally as examples of international co-operation for archaeological research among these three Dutch islands. The logistics of local introduction, organization, implementation, and results of these three projects are presented as a reference for the continuing development of our AHM strategies for the islands. Each project will be examined for its specific organization, implementation and research results, which is then followed by a comparative overview of the broader impacts and implications for the future.

Background summary of AHM contexts of the Dutch Windward Islands

Previous chapters in this volume have provided a thorough overall perspective of AHM applications in the Dutch Caribbean, and thus need not be repeated here. However, a brief review of the general contexts for these three case studies is presented in order to present more clarity for the reader of this chapter.

Effective applications of the Valetta Treaty concepts have been implemented on the island of St. Maarten with the Archaeological-Anthropological Institute of the Netherlands Antilles (AAINA) since 1996 and on St. Eustatius since the creation of the St. Eustatius Center for Archaeological Research (SECAR) in 2000. However, from the 1980s onward on Saba AHM work has been handled more as pure research programs by Leiden University and AAINA. All three of the islands

discussed here, had their first archaeological surveys conducted by this author (1985a; 1985b; 1988).

In October 2010, with the restructuring of the former Netherlands Antilles constellation, St. Maarten became an autonomous entity within the Kingdom of the Netherlands, and the islands of Saba and St. Eustatius fell directly under the authority of the (European) Netherlands, in the form of special municipalities. As a result of this restructuring, the legal foundations of the smaller islands of Saba and St. Eustatius were left under direct application of the (European) Netherlands legal system, while St. Maarten required creation of its own legal formats, very often based on models from the (European) Netherlands, yet always within international standards. The specific implementation of the Valetta Treaty for AHM standards was therefore automatic and direct on the smaller Dutch Windward Islands, and then subsequent to 2010 made effective on St. Maarten.

In the case of St. Maarten, the fact that the former Netherlands Antilles had previously ratified the Valetta Treaty in 2007, indeed insured its application on the island into the transition period immediately after October 2010. On St. Maarten and St. Eustatius, due to the existing utilized applications, the introduction of the Valetta Treaty concepts and dissemination of the conditions were less of an impact for the general public and responsible public authorities. However, on the island of Saba the implementation of the Valetta Treaty conditions required considerably more education and explanation for the responsible civil servants and the general public. A review of the Valetta Treaty implementation potentials was also assessed by a panel of experts from all the former Netherlands Antilles islands, with specific regard to the unique conditions of Bonaire, St. Eustatius and Saba, the so-called BES islands (NAAM 2012).

Breadline Site, Windwardside, Saba

Historical archaeology research technically began on Saba as incidental finds and documentation by J.P.B de Josselin de Jong during prehistoric excavations in 1923. In 1983 this author conducted the first island-wide historic sites documentation for the AAINA of the former Netherlands Antilles government. In 1987-89, Corinne L. Hofman and Menno L.P. Hoogland of Leiden University documented features of historic sites on the island during prehistoric sites research. The most recent and extensive historical archaeology work has been done by Ryan Espersen, a PhD student of Leiden University, who has conducted research at Mary's Point, Cow Pasture, Middle Island, and two Spring Bay sites for both his Master's thesis, and now for EUROAST and his doctorate work at Leiden University.

The research examined here was the result of the first application of the Valetta Treaty mitigation conditions on Saba, as rescue excavations at the Breadline Site in the village of Windwardside. This investigation was conducted in April 2011 through co-operation of the Saba Archaeological Center (SABARC) and the St. Maarten Archaeological Center (SIMARC), both represented by this author, together with R. Grant and Joanna Gilmore, and with equipment assistance from Leiden University. It is important to note that until this SABARC-SIMARC investigation of 2011, not only had the Valetta Treaty not been implemented,



Figure 14.1: Breadline Site, Windwardside, Saba, before excavations (a), and after development plan completion (b).

as well, no Saban historic period human burials had ever been archaeologically excavated on the island.

Saba is a very small island of about 5 square miles and today about 1800 people, with significant isolation throughout its history, resulting in a true self-sufficient island with regular population fluctuations and a strong cultural sense of identity

integrity. Although the population numbers have been consistently balanced between European and African descendents, it is also evident that community segregation of these two population groups was prominent well into the mid-20th century. It were the peak population years of the late-19th to the early-20th century that relate directly to the excavated burials investigated in this particular research.

A significant aspect of the Saban cultural identity is a strong sense of community spirit, with particular emphasis in the oral history accounts of the European descendents on their close affinity with a Scottish/British Isle heritage, rather than with Dutch cultural traditions (Johnson 1979). Some of the manifestations noted in oral history, indicated as being of these traits, include language accents and usage, as well as light-sensitive skin and red hair being common among the European-descendent group on Saba. Of the former Netherlands Antilles islands, in 1919 only Saba was granted unique legal statutes that permitted the burial of family members in the yard space of private homes, in part due to the limited availability of flat land as well as to cultural tradition.

The 2011 Breadline Site excavations at Windwardside were the result of requested formal archaeological mitigation, based on the Valetta Treaty, to remove known burials from the site, which was planned for development by Stanley Peterson as a local land owner. It was the government of Saba, and specifically the Governor, that first realized the need to comply with the Valetta Treaty conditions within its new constitutional status. Subsequently, the property owner with agreement from the government contacted this author as the SIMARC-SABARC president, to conduct the research. Several meetings were then required by the Governor between the archaeologist and property owner, to coordinate the logistics for completion of the work. Before fieldwork was allowed, the surviving members of the local Holm family were requested for written permission to remove the remains of their ancestors in the known graves at the site. During the preparation phase of this first Valetta Treaty mitigation on Saba, various logistical aspects were also needed to be dealt with, such as creation of a formal Memorandum of Cooperation and other permit documents for the compliance conditions, as well as the specifics of equipment needs which were loaned via the Leiden University Caribbean research program. An additional critical aspect of the preparations was a coordinated public awareness program on the island, carried out by SIMARC-SABARC and the government, via local media services and several community information presentations. Once all of the noted preparation conditions had been met, the fieldwork was granted permission, with the full expenses for the work to be covered by the property owner. Supervision of the fieldwork was conducted by this author, with field participation by R. Grant Gilmore for site mapping and Joanna Gilmore as physical anthropologist, as well as hired laborers and also some of the local SABARC students.

At the time of initial fieldwork (Figure 14.1), three graves were visible on the surface of the site, and after the investigation was completed, there were five identified graves at the site, with three being certainly known Holm family ancestors. These known graves were the family of Thomas Holm, who was the Lt. Governor of Saba in 1898-99 and again in 1908. Thomas Holm was a very prominent European-descendent person in Saban society.



Figure 14.2: The graves of Thomas and Ann Katherine Holm before the excavation (a), and at first exposed level (b).



Figure 14.3: Further exposure of the Burial 1 and 2 graves, showing the unique burial techniques (a); and final exposure of the Burial 1 and 2 graves (b), Thomas Holm's grave is the left side grave.

Figure 14.2 shows the initial removal of the headstones for Thomas Holm and his wife Ann Katherine, with the grave fill stones evident directly under the headstones. The first grave opened (Burial 1) was that of Ann Katherine, born in 1853 and buried in 1927. Figures 14.2 and 14.3 illustrate the unique burial technique of large cap-stones laid across a stone-lined vault in which the coffin box was placed. As can be seen, the position of the coffin nails and the actual air-pocket encountered when opening the vaulted space indicate that the coffin had decomposed in the air. Some of the more personal artifacts noted in this burial include a tortoise shell comb, an Anglican Book of Common Prayer, and indeed actual red-hair was also present. Of more curious note is a crystalline material which covered the upper skeleton, perhaps a mineralization result of decomposition in an open-air pocket.

Adjacent and parallel to Ann Katherine's burial was that of Thomas Holm himself (Burial 2). Thomas Holm was born on Saba in 1850 and was buried in 1913. His burial shows the same technique with large cap-stones and a stone-lined vaulted space for the coffin box, albeit slightly deeper than the first. There were several tin plates with ornamental designs, that were apparently attached to the top of the wooden coffin box which had collapsed onto the skeleton. Figure 14.3 shows the two adjacent graves opened.

The third grave excavated adjacent yet perpendicular to the previous two, was that of a child, less than one-year old, and assumed to be the child of Thomas and Ann Katherine (Burial 3). The same burial technique of large cap-stones and a



Figure 14.4: Burial 4 skeleton exposed.

stone-lined vaulted space was present. No grave goods were present in this child's burial.

The fourth burial was reported by local Windwardside historian Frank Hassell to be the brother of Thomas Holm, Reginald (Burial 4). This burial was separated from the others by about 20 m, and had a stone-mortar flat grave marker at the surface with no headstone. Once again the burial technique is a stone-lined vaulted space with large cap-stones. The burial yielded numerous jacket buttons, with a concentration (perhaps suspenders) at the waistline of the deceased (Figure 14.4). Sea captain jackets are known to have numerous buttons, and Reginald was a sea captain.

The last burial excavated for this mitigation was aligned immediately parallel to that of Thomas Holm, and is believed to be his mother, Eleanor Hassell (Burial 5). She was evidently buried much earlier than the others, with the artifacts directly associated with the skeleton indentified from the mid-19th century. And once again, a stone-lined vaulted space with large cap-stones was evident. Of particular interest in this burial was the evidence that the deceased had one set of shoes with laces on her feet and another pair of shoes placed on her chest. It is well recorded in historic documents that in the 17th and 18th centuries Saban residents were famous in the region for shoemaking (Johnson 1979).

The over 1400 artifacts recovered during these mitigation excavations can be divided into fragments of ceramics (49%), metal (12.4%), and glass (9.3%). Among the ceramics, whitewares, pearlwares and stonewares are the most common categories. Some of the more interesting artifacts recovered were clearly indicative of the elite status of the Holm family, as having a slate-board for writing, firearms and hand-carved woodwork. The most curious finds were two intentionally extracted teeth (molars). It is relevant to note here that Thomas Holm, apart from being the Lt. Governor, is recorded in documents to have functioned as the island dentist (Hartog 1975). Besides, a 'Peter Dorni' kaolin pipe was recovered which dates to the 19th century. A porcelain doll dating to 1914-1923 was found, perhaps relating to the child burial, or to other children in the family. Other artifacts recovered in the vicinity of the site, dated to after the placement of the graves.

According to the oral history account of Mr. Guy Johnson, an elderly resident of Windwardside, in his childhood people would watch out for specially shaped large flat stones for use as grave cover-stones, and they would be set aside for later use on burials. Allicks Heyliger, the island grave-digger for over 40 years, informed us that the last burial using large cap-stones was made in the 1980s (Haviser 2013). Since then, Saban burials of both European and African descendents continue to have the stone-lined vaulted space, with the coffin box placed in the open pocket, on top of which a sheet of plywood is placed, covered by a layer of cement (± 8 cm), then fill dirt. Clearly, this burial technique is a modernized evolution of the original technique noted with the Holms family.

According to colleague archaeologists who have excavated European burials in the region, this Saban burial technique is unique in the Caribbean. Interestingly, recent excavations by Schlee (2011) at St. Bride's Haven, Pembrokeshire, Wales, UK, produced exactly the same burial technique as identified on Saba. These Welsh graves are referred to as 'cist' graves, with cap-stones and stone-lined vaults,

and are present in the British Isles from Wales to Scotland into the 15th century. Thus, it is presented here that the unique Saban burial technique verified in this Valetta Treaty mitigation research, is indeed indicative of remnant Scottish/British Isle cultural continuity on Saba, and thus supports the oral history of Scottish/British Isles roots in European-Saban culture. Further research will be needed to confirm whether this technique was specifically for European-descendents or for African-descendents as well, thereby making it a true Saban cultural tradition. Other uniquely distinctive European burial techniques are known in the Caribbean region, an example being the technique of multiple-episode vertical burials in the same grave pit, as identified with excavations at de Temple site, Curaçao, by Haviser & Khudabux in 1998 (Haviser & Khudabux 2001).

Within the scope of AHM public awareness, a theme of ‘into the future with respect for the past’ was subsequently presented on the island. The example of this first Valetta Treaty mitigation at the Breadline Site, is that now a precedent has been set to have proper archaeological mitigations of sites on the island, and indeed many residents have stated they wished the practices had been implemented years earlier, as so many sites have been lost in the mean time. This public awareness program also included a show of respect to the community, such that after the scientific analyses of the Breadline Site burials had been completed, the human remains were given a proper ceremonial reburial at the Anglican Cemetery in Windwardside by Father Hassell, using the recovered child’s headstone as the marker, and with members of the Holm and Peterson families, archaeologists, and government representatives present.

Today, SABARC continues to assist the community of Saba to develop a sense of pride in their cultural heritage. With a grant from the Saban government the Saba Heritage Center could be established in 2013. SABARC is ensuring the continuity of proper AHM principles, artifacts storage and public education for the island, all in co-operation with SIMARC and Leiden University.

Joremi Survey, St. Eustatius

For compliance of Valetta Treaty conditions, in May 2012, SIMARC was asked to conduct an archaeological assessment of the Joremi NV property on St. Eustatius by its owners. SIMARC co-operated with SECAR and Leiden University students to carry out the fieldwork, with a final report produced by this author and Ruud Stelten in December 2012. The need for this assessment was a proposed large-scale development project at the Joremi NV property, indicated as NM-2 on the St. Eustatius Spatial Development Plan, covering a large area on the southwestern slopes of The Quill volcano. The North American owners of Joremi NV have proposed to construct an eco-lodge, and several luxury villas. The construction of these facilities can have a direct impact on the archaeological remains present on the property, and thus a need for the Valetta Treaty compliance implementation arose. The preparation phase of this Valetta Treaty compliance on St. Eustatius was much more formalized and structured than on Saba, due to the presence of SECAR and its previous AHM work conducted on the island. Consequently, there was the initial government notification of the Joremi NV company that an

archaeological assessment was required in order to be granted permission for the development plan. This was followed by the land-owner's request of a SIMARC-SECAR co-operative research for the compliance conditions, and subsequently with the necessary meetings between government authorities, SIMARC-SECAR and Joremi NV to co-ordinate the logistics and payment of the work. The public awareness aspect of this project was handled via the ongoing public service programs of SECAR and SIMARC.

SECAR and SIMARC conducted a comprehensive survey on Joremi NV's property with the discovery and documentation of five archaeological sites and various historic stone walls. The final report comprises a historical introduction to the island and an in-depth assessment of the archaeological remains encountered in the research area. The final report further contains recommendations for future research and suggestions for preservation of the archaeological remains encountered, within the concepts of the proposed development plan. Currently, these recommendations have been accepted into the project development plan.

The Joremi Survey research area encompasses about 80 hectares located on the southwestern slopes of The Quill, a dormant volcano. Because the area is densely overgrown and even impenetrable in places, it was decided to cut a path across the research area with a mechanical excavator. This path would serve as a baseline point of reference during the survey and would allow for easier access to all parts of the research area. The cutting of this path was monitored by an archaeologist at all times. From this baseline path, surveys by foot were conducted throughout the research area by a team consisting of SECAR, SIMARC, and St. Eustatius National Park (STENAPA) personnel and volunteers. In this way, five archaeological sites were encountered, of which GPS coordinates, photographs, and site measurements were taken. Wherever possible, surface artifacts were collected to determine the age, nature, and extent of the sites. In addition to several historic stone-pile boundary walls, five significant archaeological sites were identified during this



Figure 14.5: Archaeological sites indicated on the 1781 P.F. Martin map, located in the 2012 survey. Site 1 is indicated by the green circle, Site 2 by the red circle, Site 3 by the yellow circle, Site 4 by the orange arrow, and Site 5 by the blue arrow.

2012 survey campaign. Many of these stone-pile boundary walls were in variable states of decomposition primarily by natural causes. Due to the poor quality of preservation of many of these stone-pile walls, only documentation of the most evident walls was noted in the final report. At Site 5, the most prominent site in the research area, five test units were excavated in order to get a better understanding of the date and function of the structures. Site plans of Sites 2, 3 and 5 were also drawn. Of great assistance to this research was a map of 1781 by P.F. Martin, which indicates the locations of various house sites and a small sugar plantation on the property (Figure 14.5).

The results of this 2012 Valetta Treaty compliance assessment at Joremi are briefly identified here, and include the five major site areas recorded during the survey (Figure 14.5).

Site 1 (SE602) - 17°28.506' N, 62°58.574' W

This site consists of one historic cistern with several modern pieces of concrete wall in close proximity. The cistern is in a very bad state of repair. Its inner dimensions are 3.35×1.74 m. A round circular feature was found on the cistern's northern wall, measuring 45 cm in diameter. The few historic artifacts noted at this site were primarily dating to the 19th century, and thus this site is suggested also to be from that time period. The structure might be related to the plantation complex historically known as 'The Farm' (off the survey property), as it was found in close proximity to this complex.

Site 2 (SE603) - 17°28.307' N, 62°58.288' W

This site is comprised of several stone-pile walls. Their exact function could not be determined, but given their proximity to each other, they are not likely to be boundary walls. This site is not indicated on any known historic map. An unusually large quantity of surface artifacts at the site indicates that it might have served a residential purpose. Artifacts encountered and collected include fragments of Rhenish stoneware, creamware, delftware, and porcelain, several glass bottle fragments, Dutch yellow bricks and floor tiles. These historic artifacts suggest a temporal occupation at Site 2 within the 18th century.

Site 3 (SE604) - 17°28.304' N, 62°58.204' W

Situated between two drainage guts, this site consists of numerous piles of stones, a large tamarind tree, a small cistern, and a stone-piled U-shaped or rectangular feature (Figure 14.6). The cistern is in a very bad state: its walls are collapsed and the plaster is disintegrating. It probably did not have a domed-top on it originally. Few surface artifacts were encountered, making it hard to determine the function of this site. However, some case-gin bottle bases indicate a 19th-century date for at least one period of use of this site. Most likely, the stone piles are the result of land clearing in order to allow cattle and/or other farm animals to roam freely without hurting themselves. The small cistern could have been used by these animals, and the U-shaped or rectangular feature could have been used as an animal pen. Several

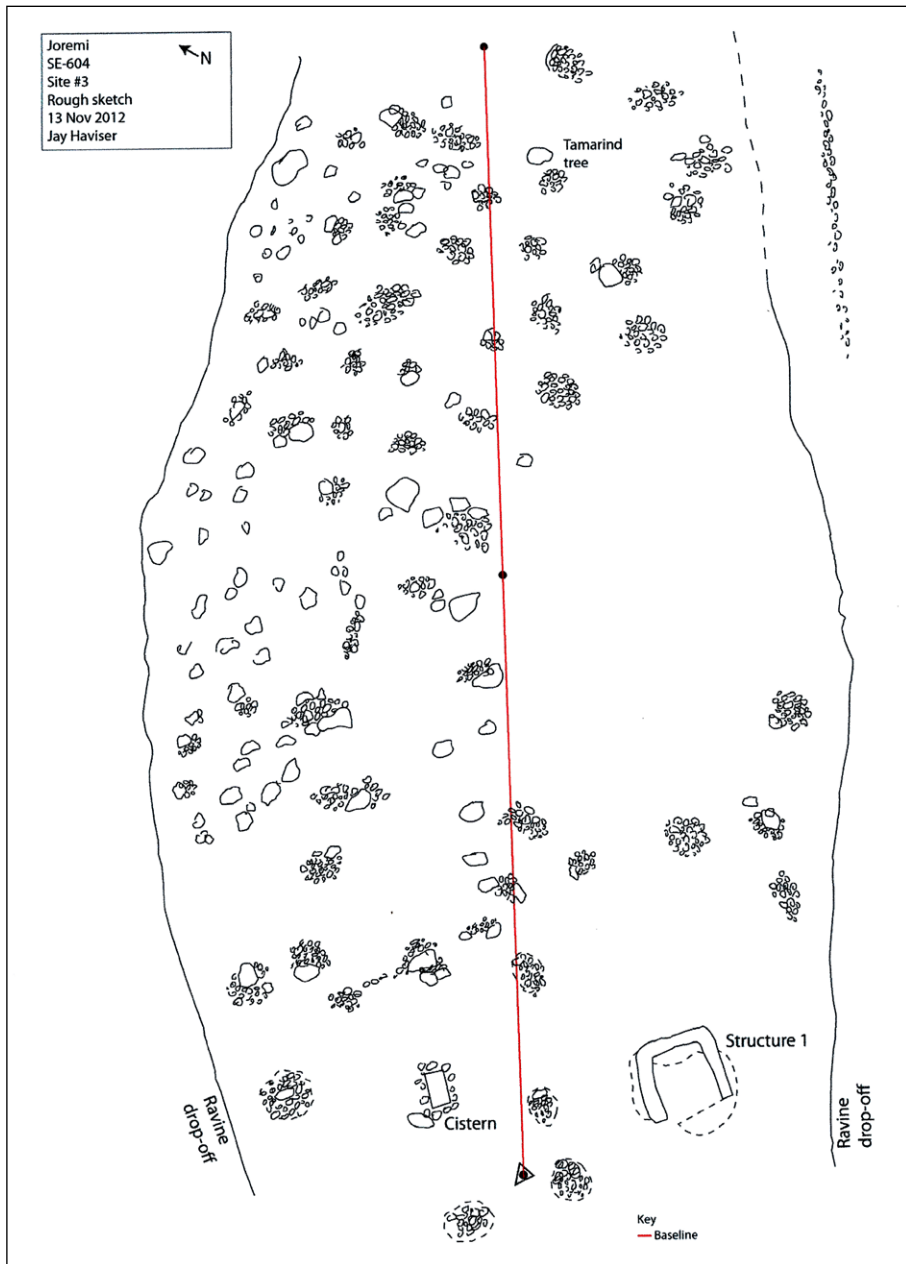


Figure 14.6: Site plan of Site 3, consisting of stone piles and other structural features.

nearby plantations were transformed into cattle farms in the early-19th century, as shown on the 1846 Bisschop-Grevelink map. This site might have been used by people operating these farms. This site is not indicated on any known historic maps.

Site 4 (SE605) - 17°28.240' N, 62°58.421' W

This site, located in the lower part of the research area, consists of numerous surface artifacts and building remains. Artifacts include several types of slipware, porcelain, stoneware, roof tile fragments, bottle bases, and a large proportion of delftware. The 1781 P.F. Martin map shows three small structures at this site (Figure 14.6). Evidence of these was found in the form of several cut stones present at the site.

Site 5 (SE606) - 17°28.382' N, 62°58.194' W

Site 5 is clearly an historic homestead complex, perhaps associated with the earliest use of the Site 3 upland cleared pasture area. Site 5 is at a much higher elevation, overlooking Site 3, on the narrow (about 60-m wide) ridge between these two deep ravines. Site 5 consists of various stone-mortar structures, including a domed cistern with yellow brick trim (3.2×1.6 m, and 2.65 m from the top opening to the interior bottom of the cistern). This cistern is attached to a rectangular house structure with about 2 m maximum height wall ruins and three window openings (approximately overall dimensions 6×10 m). About 10 m to the north is a larger (storage) structure with about 3 m maximum height wall ruins and no apparent windows (only half of this structure is present), and a rectangular terraced platform (about 15×10 m) surrounded by stone piles to the immediate east of the house/cistern (Figure 14.7). Around the area are various stone-piles resulting from land clearing, and a stone-pile wall uphill to the west which spans between both the deep ravines on either side of the site with a V-shape at its apex, perhaps to divert water into the ravines. Artifacts first noted at the site were few and diverse, with dates ranging from the 17th to 19th century, with a small surface collection made. From these observations a general sketch map, showing all Site 5 characteristics, was compiled with the various features indicated and the locations of the five test unit excavations (Figure 14.7).

During the detail photography at the site, it was noted that on the house structure there seem to be two types of mortar, an old lime-mortar and a newer 19th-century mortar. For a more precise documentation of Site 5 (as the most significant site recorded during this 2012 campaign) we conducted five 1×1-m test unit and one 1×2-m test unit excavations at the various structural features of the site. These units were excavated in arbitrary levels, yet based primarily on the soil stratigraphy noted in the deposits. Artifacts from the excavations were separated and labeled by provenience, for processing at the SECAR laboratory, where they are currently stored.

Among the most interesting and potentially diagnostic temporal artifacts excavated from the Site 5 test units, were a round, blue bead, a bronze ink pen tip and an iron skeleton key. The presence of elite items, such as the bronze ink pen fob, the strong-box skeleton key and high-quality ceramics, would suggest that the initial construction and occupation of this site in the 18th century was by a family with education (writing) and significant prestige and wealth. This Site 5 seems to represent an early homestead site dating to the 18th century (indicated as structures on the property of J. Heyliger as noted on the 1781 Martin map;

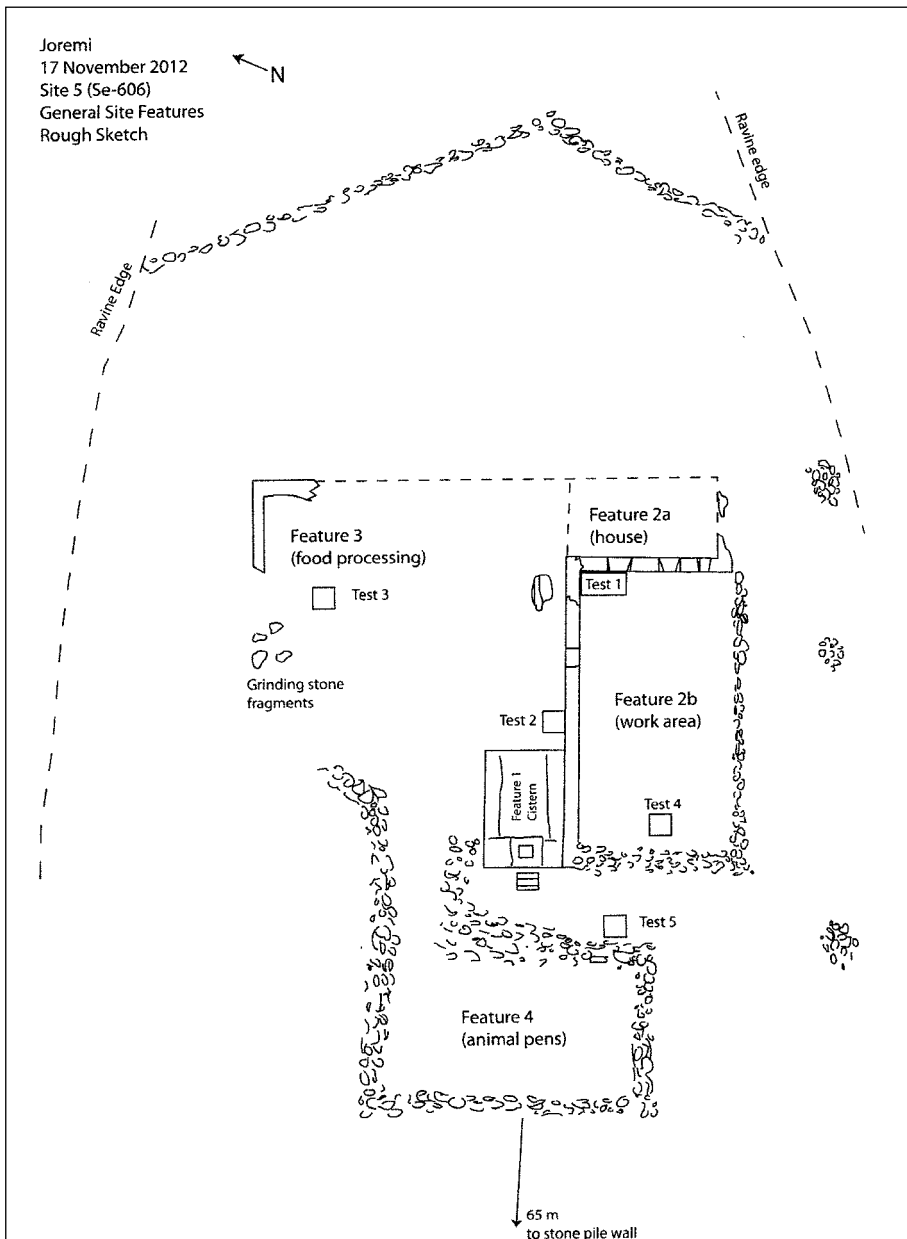


Figure 14.7: General sketch map of overall Site 5 features and test unit locations.

Figure 14.5). The site was apparently abandoned and then re-occupied in the 19th century, perhaps for later use with the Site 3 upland pasture.

Based on the archaeological evidence identified during the 2012 Joremi Survey by SIMARC-SECAR, the following recommendations were made by the authors (Haviser & Stelten 2012). It was strongly recommended that the archaeological sites identified in the final report are specifically integrated into the project designs of the Joremi NV Development concept. This could be implemented via

the subtle use of archaeological features, such as keeping the dry stone-pile walls along the new project roadways, and the small cisterns in public space, for an historical atmosphere distinctive of St. Eustatius. Yet of utmost importance is the preservation designation of specific areas, particularly Site 5, as protected green areas for educational and touristic park use within the development plans. Site 5 could be a wonderfully scenic place for a heritage park, and with the compliment of further research a small museum (including some of the unique artifacts found in this survey) could even be there as an iconic symbol of the area's heritage theme. Furthermore, the very nature of Site 5 being an elite homestead of the 18th century, falls ideally into the Joremi NV concept to create luxury villas in the same surroundings as this site, exemplifying the same settlement concept through the centuries and the continuity of social memory. Finally, it was strongly recommended to preserve all the identified archaeological features noted in the final report as in-situ sites. However, in the event that some of the archaeological features identified are not able to be preserved, it is essential that further archaeological investigations be conducted at these sites to be impacted in order to preserve them. Of course, the final decision on preservation, whether in-situ or ex-situ, rests with the St. Eustatius Executive Council (the competent authority) and thoughtful insights of the wealthy North American Joremi NV developers.

Rockland Site, St. Maarten

With the autonomous status of St. Maarten, the formal requirements of the Valetta Treaty are implemented on a more regular basis, following the compliance demands of the Ministry of Volkshuisvesting, Ruimtelijke Ordening, Milieu en Infrastructuur (VROMI), which is further facilitated by the presence of SIMARC on the island for professional services. During the Rockland Site research program, ample media coverage was conducted of the investigation, as both a means to communicate what was being found, yet perhaps more importantly to reinforce the public knowledge that proper AHM procedures are required by the St. Maarten Government.

In July 2012 an archaeological survey was conducted at the Rockland Plantation (also known as the Emilio Wilson Estate, and/or the Industry Plantation) (Figure 14.8). This work included a general survey and various test excavations in specific areas for proposed development which had a potential for culture-historical resources. This work was requested for Valetta Treaty compliance by Rain Forest Adventures, a major North American development company which was coordinating the development project for the site. The archaeological research was conducted under the direction of this author, as the director of SIMARC. A variety of local institutions cooperated for the completion of this study, including the St. Maarten Museum, the Land Survey office, and the SIMARC Center which provided the research facility, field laboratory equipment and student assistants for fieldwork and analyses.

The objective of this investigation was to identify any evidence of culture-historical archaeological remains within the specifically scheduled impacted areas designated by the Rockland Plantation development plan of Rain Forest Adventures



Figure 14.8: View of the upper Rockland Survey area, with Sentry Hill in the background and the Rockland Plantation Main House in the foreground.

(Haviser 2012). This research included a background historic documents review, the analysis of previous archaeological study reference data, including the results of a 2005-2006 SIMARC field investigation at the adjacent Golden Rock Plantation site (Haviser 2006). Unfortunately, this archaeological survey was cut short of full completion, due to unforeseen issues for the developers having to stop the project, and thus what is presented here is a brief summary of the completed results produced prior to closure of the project.

In 1989-1992, an historical archaeological survey and site mapping project was conducted on St. Maarten, including the Industry Plantation complex, by Dr. Norman F. Barka and students of the College of William and Mary, Williamsburg, Virginia, USA. Within his report, Barka recorded the Industry Plantation complex ruins in detail, however with little survey of the surrounding areas, including an area to the north he called 'Rockland'. The term Rockland has since come to refer more to the old Industry Estate, adjacent to the Golden Rock Plantation complex, where the present Emilio Wilson Historical Park is located. The Industry (Rockland) Plantation structural complex was included in the proposed Rain Forest Adventure development plan, albeit not as areas to be impacted with new groundbreaking construction and thus the complex of ruins was not surveyed within this investigation. However, it should be reminded that this 2012 archaeological survey includes the area between the main complex of structural ruins and the roadway (L.B. Scott Road) which would have had a direct relationship to the Rockland Plantation activities of various generations.

In 2005 an historical documentation search and site location map of the Emilio Wilson Estate area was compiled by Andre Patrick of the St. Maarten Land Survey office. Within Patrick's report were noted four primary site areas within the property, including the Industry (Rockland) Plantation complex of ruins. Furthermore, from historic documents noted in Patrick's report we can see that activities related to the sugar industry complexes at Industry (Rockland) and Golden Rock extended beyond their currently recognized boundaries.

The field methods used for this SIMARC 2012 archaeological survey at the Rockland Plantation initially included three north-south linear transects, parallel at 15-m intervals, of approximately 100 m length and 2-3 m width, across the survey area specifically parallel to and between the L.B. Scott Road and the main Rockland structural ruins features complex. These survey transects were conducted for ground inspection, archaeological feature mapping, and surface artifact collections over the specific survey area.

The second phase of the project involved 50×50-cm test unit excavations along the transects. At 20-m intervals (when possible) along each transect, 50×50-cm test excavation units were dug. These test units were excavated in 10-cm artificial levels until the sterile base rock was reached, with soil type, color and depths recorded. Any artifacts recovered in these test units were collected, bagged and properly labeled with the test unit-level provenience data. All artifacts were collected from the excavation units, including modern materials from level 1 or the surface at the unit locations. Photographs were made of all relevant archaeological features identified at the site during the survey. All artifacts recovered during the SIMARC 2012 Rockland Survey are currently housed at the SIMARC Archaeological Center on St. Maarten.

After identification of high-potential areas within the survey area via the test unit excavation results, larger trench excavations were conducted at these priority locations. Five priority areas were identified: (1) the Tamarind Tree Area; (2) the Well Area; (3) the Field Area; (4) the Grounds Area; and (5) the Structural Complex Area. The trench excavations consisted of 1×5-m units, dug in 10-cm artificial levels until the base rock soils were encountered. Following standard professional practices, all artifacts recovered were separated by levels, bagged, labeled, and sent to the SIMARC laboratory for processing.

Tamarind Tree Area

Trench Excavations 1-3 were located to the south of the entrance gate (Figure 14.9), adjacent to the L.B. Scott Road, progressing to the interior with Trench 1 closest to the roadway (10 m from and parallel to the roadway), Trench 2 the next 5 m interior and parallel to Trench 1, and also parallel Trench 3 last at 5 m from Trench 2, towards the interior of the property. All of these trenches are aligned north-south.

Specific features of this area include a fallen, very large tamarind tree (with a trunk of 1.2-m in diameter) and rubble of a modern wooden shed with the fallen tree. No other structural features were noted. The area is flat with secondary growth bush. Oral history accounts of two elderly local visitors to the site mention



Figure 14.9: View of Trench 1, Units A-B, 1×10 m, levels 2-3 (20 and 30 cm).

that about 40 years ago at this specific location a small shed was to be found under the tree which was used for Sunday Prayer services and other group meetings. Further, they had noted that the tamarind tree had fallen in the 1995 Hurricane Luis.

Well Area

The Well Area consists of a large old stone well (4 m in diameter), that was rebuilt and covered with modern concrete in the 20th century. At his location, three large iron sugar ‘coppers’ were encountered adjacent to the well, with an iron water-flow pipe from the opening of the well to the coppers. As well, at this area there are two dry-stone pile walls that run roughly parallel to each other at 5 m apart, straight from the old entrance gate west and up to the boiling house. At the exact location of the well the parallel walls spread apart to about a maximum of 15-m width. At the maximum width, the well is on the north side, outside the wall, and on the south side there is a 4-m wide opening in the dry-stone pile wall, with pillars on either side for a gate.

Trench Excavations 4 and 5 were located in the Well Area, with Trench 4 to exterior of the south dry-stone pile wall, immediately east of the gate opening. Trench 5 was situated within the interior space between the dry-stone pile walls, immediately across from the well and adjacent to the sugar coppers. Both of these trenches were aligned east-west.

Fields Area

The Fields Area is flat land covered with new secondary growth, stretching from the Well Area to the northern boundary of the Rockland property. This area has been cleared and used recently for agriculture, as is evident by abundant modern agricultural artifacts scattered on the surface. The soils have been stripped away to such an extent that the base rock soils are seen over much of the area.

Trench Excavations 6 and 7 were conducted here, with Trench 6 near to the rebuilt well (10 m north) and Trench 7 dug at 50 m north in the middle of the old gardens. Both of these excavations are aligned north-south, produced only modern artifacts, with base rock soils noted at the bottom of level 1 (10 cm), and were consequently discontinued.

Grounds Area

The Grounds Area is thus called because it is situated on a slight plateau slope, just to the east of the main open grounds (front yard) of the Rockland Plantation complex of ruins. This small knoll is covered with secondary growth and has about 30 cm of soils with historic artifacts present.

Trench Excavations 8 and 9 were parallel to each other with a 5-m separation, aligned north-south. The artifacts produced in these units were clearly associated with activities of the main complex, such as having more refined and unique ceramic types.

Structural Complex Area

The Structural Complex Area is closely associated with various features of the main Rockland Plantation structural complex, with four trench excavations conducted here. However, all of the four units indicated disturbed soils and/or removed top soils with few artifacts produced.

Trench Excavations 10 and 11 were located just north of three isolated sugar coppers built into a water trough, at about 45 m northeast of the boiling house structure. These two 1×5-m parallel units, at 5 m apart and aligned east-west, clearly indicated removal of top soils, as the base rock was noted at less than 10 cm depth, and no artifacts were evident.

The results of this investigation were separated into two primary categories for analysis and presentation, first, above-ground archaeological features and surface artifact collections, and secondly, excavated features and sub-surface artifact collections.

Above-ground archaeological features

During the 2012 Rockland archaeological survey the most common large archaeological features noted on the surface were dry-stone pile wall structures. Tin roof sheeting was randomly scattered over the site area, with 18 specimens identified along the various transect lines (no tin roof sheeting was collected). These are considered modern artifacts, resulting from dispersal due to previous hurricanes, and of minimal significance for this survey analysis.



Figure 14.10: Example of the dry-stone pile boundary walls in the survey area.

The most common above-ground archaeological features identified during the survey were the dry-stone pile boundary walls, often locally referred to as ‘slave walls’ (Figure 14.10). This author has some disagreement with the term ‘slave walls’ in that it is evident that these walls have been made for a considerable time after Emancipation and thus by persons other than slaves, including persons of non-African descent. The primary purpose of these walls was to function as boundary markers, animal corrals and as a method to pile the stones cleared from the agricultural fields. These wall features consist of linear piles of, primarily dioritic, stones laid together in such a way that they support themselves and do not require a binding mortar/cement, thus the term ‘dry-stone’ pile walls. These walls are on average about 1.2-1.4 m in height and 1.0-1.2 m in width when intact. (However, sometimes the stones have collapsed due to tree growth, animal climbing or natural erosion.) The side forms of these walls range from a slightly inward arched angle tapering to the top, to a vertical side. The tops of these walls tend to be flat, exposing the interior fill of smaller stones with an exterior supporting placement of the larger stones. Stone sizes used in these walls range from 20-30 cm diameter for the smaller interior stones to 30-50 cm diameter for the larger exterior stones, often with very large natural position boulders incorporated into the wall structure.

Almost all of the dry-stone walls indicated on the 1916 Werbata map were identified and confirmed to be in a good state of preservation. Indeed, the wall immediately parallel to Transect 18 (in the very middle of the survey area), was in excellent preservation. One of these walls, noted on the 1916 map, which connected the southwest corner of the Emilio Wilson Historical Park to the Rockland Estate

(north-south) was completely obliterated by the modern alterations to the terrain due to the construction of a shooting range. No additional dry-stone pile walls, apart from those indicated on the 1916 map, were noted in the survey.

Surface/Test Unit artifact collections

For the surface/test unit artifact collections, each transect was walked during the survey and any materials (including modern) were collected and bagged with provenience given. The test units were at regular intervals along the transects, and excavated in 10-cm arbitrary levels to the base rock. An overview of the surface/test unit artifact collections made during the 2012 survey shows that 168 artifacts were analyzed from the surface/test unit collections, which is only 4.8% of the overall 2012 research collection totals. Ceramics represent well over half at 60.1% of the total analyzed surface/test unit sample, and glass is also prominent as represented with 19.6% of the total. It should be noted here that plastics, which were of considerable quantity in the transect surveys, were not included in this surface collection analysis.

There was some variation of ceramic types analyzed in the surface and test unit artifact collections, with a clear indication that pearlware ceramics are predominant, with 48.5% of the ceramic surface/test unit collection total. Following the pearlwares, creamwares are clearly evident at 26.7% of the total, and stonewares are also evident with 15.8% of the total. These three ceramic types suggest an initial interpretation of the general range of occupation from the mid-18th century to the mid-19th century. Based on the results of the surface and test unit collections, larger 1×5-m trench excavations were placed at various locations over the site area. This was for more extensive artifact sample collection and site feature identification.

Excavated soil features

The general soils at this site include primarily sandy loam overlaying a base soil of sandy clay with dioritic stones. Sandy loam is to be found where artifacts were recovered from sub-surface contexts.

Combining the above-mentioned 168 artifacts from the surface/test unit artifact collections with the total of 3297 artifacts analyzed from the trench excavation units conducted over the site area in 2012, results in a total of 3465 artifacts studied in this research. Observing the trench-excavated materials only, eight categories of finds can be distinguished: ceramics, glass, metal, kaolin pipes, brick/mortar, shell/coral/bone, stone, and modern objects. The three most common categories of artifacts from the excavations were ceramics (40.1%), glass (30.4%) and metal (10.2%).

Based on the historic documents review and archaeological investigations at specific areas of the Rockland Plantation within the Emilio Wilson Estate, the following interpretations were given in the final report. It was presented that based on the documentary and artifact evidence there was an historic occupation at this Rockland Plantation from the early/middle 18th century until the middle 19th



Figure 14.11: Nineteenth-century African trade beads, faceted white-heart blue beads, found in excavated contexts.

century, which was followed by a modern occupation by Mr. Emilio Wilson until the early-21st century.

It was further presented, based on the artifact evidence found, that there are various activity areas within the specifically surveyed property. These include the main structural ruins area having earlier and more elite-status ceramics associated with the Structural Complex Area, and specifically the Grounds Area just to the front yard of the main house complex, as suggestive of the elite European presence in those areas. Exclusively modern artifacts and extensive modern soil removal is evident in the agricultural Fields Area. Extensive presence of historic artifacts and various activities associated with the Well Area include the faunal evidence of cattle and horses with water trough use of the sugar coppers, the use of the water source by the Fire Brigade, and probable evidence of the presence of working women sewing (thimble) at the location. Of particular interest are the unique characteristics and great abundance of particularly African-associated artifacts, such as unique trade beads (Figure 14.11) and hand-wrought nails recovered from the Tamarind Tree Area, suggesting that this area may have been used as a food-stand or work-shed adjacent to the main roadway, utilized by either the enslaved Africans or perhaps Free-African craftsmen working at the site.

Summary

From these three examples, some general observations can be made regarding the variability of potentials and effectiveness of implementation for the Valetta Treaty in the Dutch Windward Islands. One of the most obvious factors that influences implementation is scale, by which I mean both scale of the development project

requiring the mitigation, and scale of the island size to island development level ratio. A second important factor in comparing these various AHM implementation strategies, is the cultural commitment/personal investment of the specific developers themselves, including the actual participation and commitment of the local island populations to the goals of the Valetta Treaty. A third significant factor in this comparison is more fundamentally related to the Valetta Treaty itself, and begs the question of whether the conditions of the Valetta Treaty are indeed too stringent for these small island states, that are still in the process of basic heritage data compilation.

Scale of a development project is one of the most important aspects which gains the attention of each island's political decision makers, and therefore it is directly related to the potential success of having a follow-up with AHM conditions. When a development project is large-scale, such as the cases on St. Eustatius or St. Maarten, with potential for major investment in the island economy, decision-makers are far more willing to 'open the doors' for the developers. However, on the other side of this coin, the large-scale developers, from places like North America or the (European) Netherlands, that are familiar with Valetta Treaty conditions, understand well that they must comply with these conditions. Indeed, for many large-scale development projects, it is just one more bureaucratic hoop to jump through to reach the development goal, and less a decision of doing the AHM work for local heritage pride. In the small scale projects, such as our case on Saba, the developer is part of the local community, developing the site for profit of course, but also for local benefit and pride. The enthusiasm to conduct the AHM work in the local small-scale case, such as on Saba, is out of passion as much as profit. However, the size and development-level scale of the island's themselves play a critical role in the effectiveness of the AHM programs. Such that on those islands with an already established infrastructure for AHM work, as on St. Maarten (SIMARC) and St. Eustatius (SECAR), the implementation of the work is greatly facilitated. Obviously, the smallest island, with the most limited resources, requires more outside assistance for AHM implementation, such as via Leiden University and SIMARC on Saba. Yet, it is a very positive sign to see that Saba is now trying to establish a Saba Heritage Center of its own, with the help of SABARC.

The issue of personal commitment to the cultures of the islands is of importance in relation to the point of scale. As noted above, large-scale projects often look to profits before the personal impact on the population, thus these developers are reluctant to implement changes to their development plans. It is therefore the role of the AHM specialists and archaeologists to convince the large-scale developers of the benefits of the adjustments to their projects, by incorporating aspects of heritage into their themes. The St. Eustatius case is just such an example, whereby the developer has little personal connection to the island, yet can still be made to understand the potential benefits with the compliment of heritage to the project plans. Indeed, one of the fundamental reasons for conducting AHM work prior to the development work, is precisely to be able to incorporate such adjustments. In the case of Saba, the personal commitment is already clear, thus the ability of the AHM specialist to convince the developer regarding adjustments is facilitated. Least we not also forget that the issues of heritage we are dealing

with, are very personal and directly related to island identity, factors that can move an island population to support or reject a development plan (van der Linde *et al.* 2012). Therefore, the thorough public education and involvement of the local populations, both the youth and general community, is essential for successful AHM program implementation results.

These issues lead us to the fundamental question of whether these small island societies are indeed ready for full implementation of the Valetta Treaty conditions at this stage of their cultural development as unique political entities, or even as a nation (St. Maarten). One of the basic premises of the Valetta Treaty is that pure research is secondary to site preservation, which is clearly a philosophy of more developed countries that have already amassed a wealth of information about their heritage and past. For these small islands of the Caribbean, long over-looked for heritage research by their metropolitan mother countries, many of the very basics of heritage research are still incomplete. There is a great deal of pure heritage research still needed on these islands, before the Valetta Treaty premise of site protection over pure research can be completely sanctioned. Therefore, the implementation of the Valetta Treaty conditions, particularly for large-scale foreign developers in small-scale island societies, should be seen from two viewpoints, firstly, to control the loss of significant heritage sites on the islands with scientific standards of investigation, yet also, secondly, to allow for implementations to include additional compilation of critical new heritage databases through some pure research as well.

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An archaeological assessment of Cul-de-Sac (The Farm), St. Eustatius

The Nustar project

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Introduction

From 20 June to 12 August 2011 a team of the St. Eustatius Centre for Archaeological Research (SECAR) and the Faculty of Archaeology, Leiden University under the direction of Dr. R. Grant Gilmore III, Dr. Menno Hoogland and Prof. Corinne Hofman carried out Phase 2 of the archaeological assessment of the Cul-de-Sac Plantation area on St. Eustatius, commonly known as The Farm. The project was initiated by NuStar Energy in concordance with the European Union Valetta Treaty (or Malta Convention), prior to the proposed expansion of the NuStar Energy oil terminal including the construction of a new jetty. The field team consisted of SECAR staff members, students from Leiden University and volunteers.

The main objective of this second phase was to assess the presence/absence of pre-Columbian archaeological sites in the Cul-de-Sac Plantation area, lying between the well-known prehistoric sites of Golden Rock (SE 6) and Godet/Smoke Alley (SE 203). Phase 2 built upon the earlier Phase 1 of this project by SECAR (Stelten 2011) which was carried out during the months of February through April 2011 and which entailed a pedestrian assessment of the Cul-de-Sac Plantation area with non-invasive techniques. Fifteen possible archaeological sites were identified. All of these sites were from the Colonial period.

Phase 2 included mechanical excavation of a number of trenches with an excavator provided by NuStar Energy in the most threatened areas of the Cul-de-Sac Plantation region in order to assess the subsurface presence/absence of pre-Columbian sites or artifact scatters. In total, 21 lengthy test trenches were excavated.

In addition, in the area of a proposed jetty, two test pits of 1 m² were excavated in order to assess this area, which is known to contain a high number of pre-Columbian and Colonial period sites such as the leper colony burial ground (SE 127), the prehistoric sites of Godet (SE 6) and Smoke Alley (SE 203), the 17th-18th century slave burials and colonial ruins, and underwater sites. Major prehistoric and historic sites are known to be located directly adjacent to the proposed jetty area, primarily on government-owned land south of the access track to the proposed new jetty.

Furthermore, as a part of Phase 2 of the archaeological project, an assessment of the known pre-Columbian sites in the direct vicinity of the Cul-de-Sac Plantation area and others on the island was carried out, primarily to gain a better understanding of their current state of preservation and the effects of erosion and slope wash processes. This survey relied on information gathered through archaeological reports by Prof. J.P.B. De Josselin de Jong in 1923 (De Josselin de Jong 1947), and by Dr. Jay Haviser in 1981 and 1982 (Haviser 1985). The coastal site of Godet was originally investigated in 1975 by Dr. Alfredo Figueredo, however the results were never published. Large scale excavations were undertaken in the 1980s and 1990s by Dr. Aad Versteeg of Leiden University at the Saladoid period site of Golden Rock located near the island's airport (Versteeg 1990, 1991; Versteeg & Schinkel 1992), the post-Saladoid sites of Godet and Smoke Alley (Versteeg *et al.* 1993) and later at the Archaic Age site of Corre Corre Bay 2. The number of known pre-Columbian sites now totals 14 of which the majority were visited during Haviser's surveys. Because of their small size and limited material culture assemblages, Haviser interpreted the majority of these sites as specialized satellite sites around the major villages of pre-Columbian Golden Rock and Godet. Known sites have been relocated on the basis of Haviser's (1985) written instructions, combined with GPS coordinates from SECAR's AutoCAD map of the archaeological sites on St. Eustatius.

Archaeological assessment of the Cul-de-Sac plantation (SE-93) area (The Farm) – Survey for pre-columbian sites and test trenches

The focus area of Phase 2 of the archaeological assessment was the valley south of the Cul-de-Sac Plantation ridge, situated between Pilot Hill and Signal Hill. It extends between the Godet beach, the FDR airport, and the ridge and the colonial sites associated with Benner's Plantation. The area of study covers around 7 hectares. Previous investigations of the area uncovered little to no pre-Columbian materials (De Josselin de Jong 1947; Haviser 1985), and historical sites were restricted to the area surrounding the Benner's Plantation and the Schotsenhoek Plantation (Stelten 2011), neither of which were located within the area of the proposed NuStar Energy development plans. Previous investigations of the area were performed using non-invasive techniques and led Versteeg and colleagues to conclude that "the surface information is only a poor reflection of the sub-surface situation" (Versteeg *et al.* 1993, 158). Sub-surface investigations of the terrain were deemed necessary to assess the area's true archaeological value.

The Cul-de-Sac Plantation area's geology consists of a highly eroded ridge that was identified as a possible location for pre-Columbian habitation. It is wedged between a shallow depression to the east and a deep depression to the west which are both filled with slope wash. The deeper depression was determined to be too eroded for prospective sub-surface archaeology, while the shallow depression was included in the trenching phase. The slope of Signal Hill is positioned east of the shallow depression, and was partly included in the survey area. The shallow depression was previously used as a scrap metal dump, and the entire terrain is partly overgrown with vegetation consisting of invasive coralita (*Antigonon leptopus*), acacia or locally Casha (*Acacia macracantha* and *Vachellia farnesiana*), poisonous manchineel (*Hippomane mancinella*), and numerous other bush and tree species. Aerial images dating back twenty years show the area to be covered mostly with grass. It was therefore decided that bushes and shrubs could be safely removed without causing significant damage to significant floral habitat as these were largely non-existent in recent decades. Non-the-less, Larger trees were avoided when clearing the vegetation and during excavation of the trenches. The scrap metal in the target area was removed and cast aside by the backhoe when obstructing trench excavations. The soil was previously analysed for chemical contamination by NuStar Energy geochemists. The results were negative.

Methodology

Test trenches were laid out in the area of the Cul-de-Sac Plantation area using a standard GPS, providing accuracy to one meter. Three-meter wide trenches were laid out parallel to each other at 20 m intervals. Their length depended on the archaeological expectations, the elevation of the terrain and the accessibility of the location by backhoe. Roads were avoided, as were erosion gullies, large trees, and large piles of scrap. All measurements taken for the Phase 2 assessment were exported into AutoCAD. The grid was set out using the St. Eustatius survey grid benchmarks DP18 and DP3 with coordinates received from the St. Maarten surveying department, ensuring that all measurements could be correlated with the official grid system of St. Eustatius.

In addition to test trenches, eight 1 x 1 m² test units were excavated on targeted areas across the Benner's Plantation complex. These units were shot in with the Total Station. The test units were excavated using trowels and shovels. All soil was screened through 6mm mesh. All artifacts recovered were washed, dried, and catalogued.

A single 50cm wide trench was excavated through the center of a bottle/refuse dump that was placed on top of the Benner's Well sometime in the 1980s. This trench was excavated using picks and shovels. The purpose of this effort was to try and locate the well in order to provide an accurate location for the well head.

Finally, the Benner's Cemetery (SE 133) was analysed using a GSSI SIR-3000 Ground Penetrating Radar. Linear transects were run at 50cm intervals to ensure the greatest confidence in findings on this site. More detailed methods are provided in the GPR section of this chapter.

All trenches were dug with an excavator. Soil was excavated in layers of 20 cm in order to identify possible archaeological features throughout the different horizontal layers. All identified features were documented in plan view, subsequently cross-sectioned, drawn and photographed. Trench profiles were photographed, drawn and soil samples were taken. Finds were assigned a find number according to their archaeological context and position. All finds were cleaned, weighed and counted in the lab and entered into a Microsoft Access database.

One m² test pits were excavated at those locations where archaeological sites had previously been reported (Stelten 2011), and at the location of the proposed new jetty. These test pits were excavated by hand in arbitrary layers of 10 cm and following the natural stratigraphic soil levels.

Results

A total of twenty one trenches were excavated, covering 9% (6,712 m²) of the total focus area (7 hectares). Trench excavation started in the part of the terrain north of the main dirt road. Trenches were oriented east-southeast to west-northwest at 20 m intervals (Figure 15.1).

Figure 15.1 Overview of the 21 trenches in the area planned for development (as of April 2011)

Test trenches 1 to 13 did not yield any archaeological features (either pre-Columbian or Colonial). Features that were recorded all revealed to be caused by bioturbation or other natural processes.

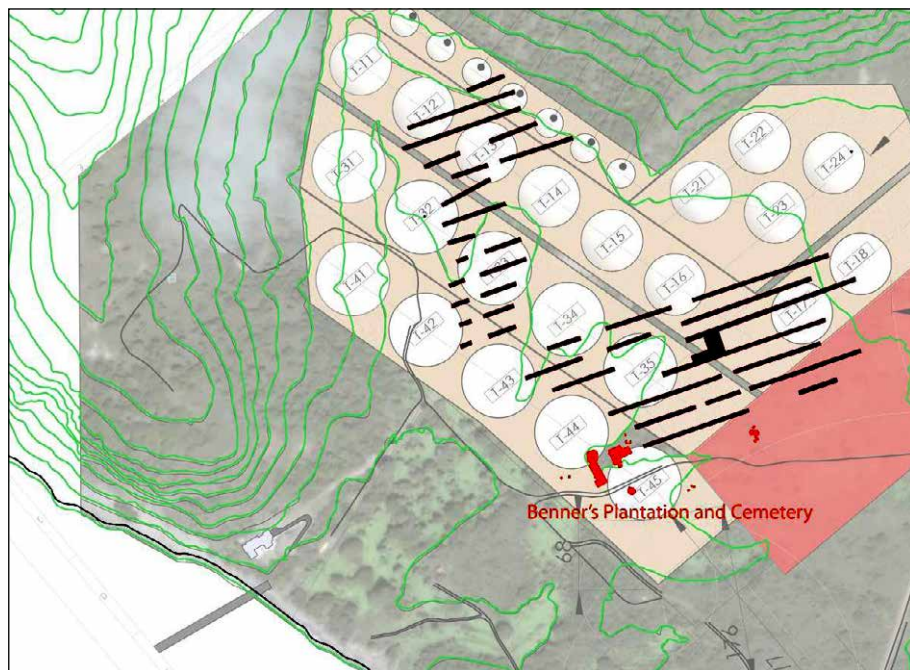


Figure 15.1: Overview of the 21 trenches in the area planned for development (as of April 2011).

A 1 m² test pit (14) was placed at the location of a supposed slave quarter site (Stelten 2011), situated in the deeper depression just west of Trenches 5 and 6. It was dug to a depth of 70 cm, well into a sterile soil layer. No indications of any pre-Columbian or Colonial human occupancy were found. Thus, no evidence was found of the possible slave village thought to be in the vicinity of test pit 14 (Stelten 2011).

Trenches 15 to 17 were dug in the terrain south of the main dirt road, which is less elevated and appears to be less disturbed/eroded than the area to the north. No pre-Columbian or Colonial features or artifacts were found in these trenches.

Trenches 18 to 21, which were positioned closest to Benner's Plantation, revealed soil features dating to the Colonial period, as indicated by a small number of diagnostic glass shards and pottery sherds, all of which were used from the 17th to 19th century. The most prominent features include a number of boundary ditches used as property markers between different agricultural plots within a Plantation. The largest of these is positioned parallel to a stone wall delineating Benner's Plantation boundary with Cul-de-Sac Plantation. A section of this boundary ditch was excavated in order to assess the age of construction/fill.

At various locations along the ditches (Figure 15.2), postholes were identified, again most likely indicating the boundaries between various plots of land. A number of shallow features appear to be the lowest sections of postholes, however no clear patterns were identifiable in order to deduce structure shape. Isolated postholes like these are again often associated with agricultural practices in demarcating land plots or as simple livestock fences. It is likely that the largest ditch represents an earlier boundary marker, which was used prior to the construction of the stone



Figure 15.2: Excavated boundary ditch.

wall. Other indications for the longstanding agricultural use of this area are two large pits containing the remains of a juvenile bovine (*Bos taurus*) and an equid (*Equus spp.*) in anatomical position. The latter indicates that these remains were not deposited after butchering of the animals. Considering the size of the pits and effort necessary for their excavation, it is more likely that the animals were buried to inhibit spread of infectious disease. Livestock was farmed in this area from approximately 1820 onward, indicating that these pits certainly date to the late-Colonial period.

Two additional 1 m² units were dug in the access road for the planned jetty. They revealed both pre-Columbian, Colonial and modern materials in the 40 cm of disturbed topsoil. This suggests that the road has previously been leveled (bulldozed), mixing cultural remains from various periods. The soil on both sides of the track appears to have remained intact. A survey of this area also revealed both pre-Columbian and Colonial surface scatter.

Colonial sites test units

Two small 0.5 m² test pits were excavated among possible burial sites at Stelten's site number 4. The testing indicated that the stones in this area were not burial markers.

Three randomly selected 1 m² test pits (TU#1, TU #2, and TU #3) were excavated in the slave village area at Benner's Plantation site. The slave village is indicated on a 1781 Map (Martin 1781) as being located west of the industrial complex on what is now an elevated ridge. Shallow plowzone layers (approximately 10-15 cm) in this location indicate that perhaps some of this area has been cleared or bulldozed in the past. Features were identified in the subsoil here possibly indicating earth-fast construction for the slave quarters. Typical 18th-century artifacts were recovered from these units and will be discussed in the following Material Culture Remains section of this chapter.

One 1 m² test pit (TU #4) was strategically placed adjacent to the exterior west wall of the industrial complex which included the sugar train. Its location was also established on the St. Eustatius GIS using a total station. This location was selected to determine the depth of stratigraphy in this area as well as to gauge the quantity of artifacts associated with this industrial structure.

The stratigraphy here was substantially deeper than in the slave village area. The soil layers included a sandy volcanic ash layer approximately 40 cm in depth. Beneath this layer was a pure ash layer that was likely the result of removing ash from the flue less than a meter away. The final layer consisted of a very hard packed volcanic ash layer that seems to form the core of many areas of elevated topography across the area.

A single 1 m² test pit (TU# 5) was strategically placed adjacent to the interior northern wall of the distillery room of the industrial complex. This location was selected to determine the depth of stratigraphy in this area as well as to gauge the quantity of artifacts associated with this industrial room. Natural soil was found approximately 60-70 cm below current grade. Two layers were identified in this Test Unit. A shallow topsoil/destruction layer included a larger percentage of stone

and mortar rubble associated with the deterioration of this structure over time. The deeper fill layer had less organic matter and also included a significant quantity of destruction rubble. Near the bottom of this layer, several intact *Ijsselstein* bricks (Dutch Yellow Bricks) were also recovered. The bricks still had mortar attached to them indicating that they were used in this area. On some bricks only one face had evidence for mortar indicating that the floor surface in this room may have been paved with brick bonded with the mortar instead of being dry laid. Typical 18th-century artifacts were recovered from these units and will be discussed in the following Material Culture Remains section of this Chapter. The floor elevation in the distillery room was substantially lower than the adjacent sugar curing room—a normal practice on Caribbean plantations. This was to permit the flow of cane processing products from the curing room into the distillery.

A single 1 m² test pit (TU# 6) was strategically placed within the western interior wall of the “Big House” foundation complex. This location was selected to determine the depth of stratigraphy in this area as well as to gauge the quantity of artifacts associated with this domestic structure. Natural soil stratigraphy was found approximately 40 cm below current grade. Thus, the interior of the Benner’s Plantation Big House Foundation was not an open cellar like that found at neighboring Schotsenhoek Plantation (SE 92). No features were identified within this test unit.

Two 1 m² test pits were strategically placed at the east and west ends of an area identified by Stelten as a possible slave burial area. These units were excavated in an effort to determine whether stone piles found in the area were indeed burial markers. The western most test unit (TU #7) was excavated after documenting and then removing possible stone markers. Although the fill deposits were significant no soil features indicating a burial shaft were identified. The researchers excavated to a 70 cm depth where natural sterile soil was reached. Even this soil was excavated another 30 cm to be certain there was no burial related feature present. Test Unit #7 contained significant quantities of domestic artifacts as well as building materials but no burial. The western most test unit (TU #8) was excavated just to the west of a large gumbo limbo tree (*Bursera simaruba*). Stones “marking” the site were documented and set to the side. In excavating this test unit, substantial quantities of domestic artifacts were recovered. At approximately 40 cm depth a darker feature fill was encountered with very few artifacts. It was subsequently determined that this was likely what archaeologists call a tree stain. Of interest was the recovery of disarticulated cow foot bones likely cast away during the butchery process.

There are two burials marked with European style markers in this area in addition to a very large tamarind tree (*Tamarindus indica*). The burial marker design corresponds with known 17th-century burials and is similar to those found at both Schotsenhoek Plantation and a single burial at the Leper Colony burial ground that predated that cemetery by many years. Thus, the area is a known burial ground and warrants significant caution if any development were to occur in this area.

Two 1 m² test pits were also excavated over possible burials in Stelten's area 10. It was quickly determined that these stone piles were quite recently made by Statia Oil Terminal personal as insulating foam was found at the center of one of these piles. Eighteenth century artifacts were found amongst these stones but these are likely accidental finds.

Test trench on Benner's Well

The 50cm trench excavated through the center of the Benner's well revealed a range of artifacts from the 17th to mid-20th centuries. Soil was primarily ash and sandy loam. The trench was excavated to the surface of surrounding topography. No well head was identified with this trench.

Benner's Cemetery

Benner's Cemetery was assigned a new site number (SE 133) during the course of this investigation. As it may be possible that this cemetery will be impacted by future development by NuStar Energy, special attention was given to this location. The burial ground was mapped in detail (Figure 15.3). The majority of burials date to the first half of the eighteenth century and include persons of some significance to Statia's and St. Maarten's history. A former governor of St. Maarten Mr. Johannes Salomons Gibbes is buried here as well as the grandfather of the commander of Fort Oranje when the so-called First Salute was authorised in 1776.

The cemetery was investigated using a GSSI SIR-3000 ground penetrating radar (GPR) by Professor Andrew Bobyarchick from the Department of Geological Sciences at the University of North Carolina at Chapel Hill. His findings summary findings are related in the following section.



Figure 15.3: Benner's Cemetery plan.

SE133 Ground Penetrating Radar Summary

Overview

A GPR (Ground Penetrating Radar) survey was conducted by SECAR in partnership with the University of North Carolina, Chapel Hill in July 2011. The summary results are accompanied by a series of depth sections (converted from two-way travel time sections). The depth sections are horizontal slices through a model of the SE133 3-D volume. That 3-D volume is interpolated from a series of parallel vertical GPR profiles. Model M1 is minimally processed. Model M2 was processed to remove horizontal banding that typically appears in GPR sections as a result of electronic noise.

Method

The survey used a GSSI SIR-3000 GPR system attached to a 400 MHz antenna, and supported on a three-wheeled cart. Raw data is a collection of parallel profiles spaced 0.5 m apart. A grid reference was set up to correspond to a previous set of coordinate points established by SECAR. GPR profiles were along the Y-axis of this grid system starting at an X coordinate of 0.5 m and continuing to an X coordinate of 10.5 m. (No profile was done at X=0.0 because of a metal fence in that position.) The Y length of each profile was 27 m.

GPR data were processed with RADAN v. 6.6 software from GSSI. Raw data in each profile consisted of two-way travel times for reflected radar pulses. This survey was done in time mode, which means radar returns were continuously collected during each profile run. In processing, horizontal distances were obtained from meter marks placed in the records during the survey. Depths are established from two-way travel times by choosing a value for relative permittivity (dielectric constant) of 8, an approximation for these field conditions.

A 3-D model is created within RADAN by interpolation between Y profiles. Consequently, sub-surface depictions are most accurate in vertical profiles on 0.5 m multiples, and least accurate in X profiles derived from the 3-D model.

Most of the depth slices are integrations of slices through the 3-D model that are 0.2 m thick. Each slice is a map of GPR characteristics in a horizontal plane at a given depth. The color palette used in creation of the GPR maps shows positive reflection amplitudes in red, negative amplitudes in blue, and zero amplitudes in white. GPR introduces pulsed wavelets into the subsurface, so each discrete “reflector” actually comprises a positive-zero-negative signature. Reflective objects – either discrete objects or layers – produce anomalies within the background of the total GPR survey. In the case of single objects, the reflection shape is often a broad hyperbola in vertical sections. Layers, such as geological boundaries or archaeological surfaces, appear in vertical GPR sections as a series of bands. The bands may be smoothly planar and horizontal, or they may be tilted or undulating.

GPR depth sections intersect reflections from discrete and planar objects. Those intersections create patterns depicted in the depth maps. The shapes and extents of those patterns are used to infer subsurface structure. Typically and with the color palette used in this summary, focus is on red parts of the maps as possible objects

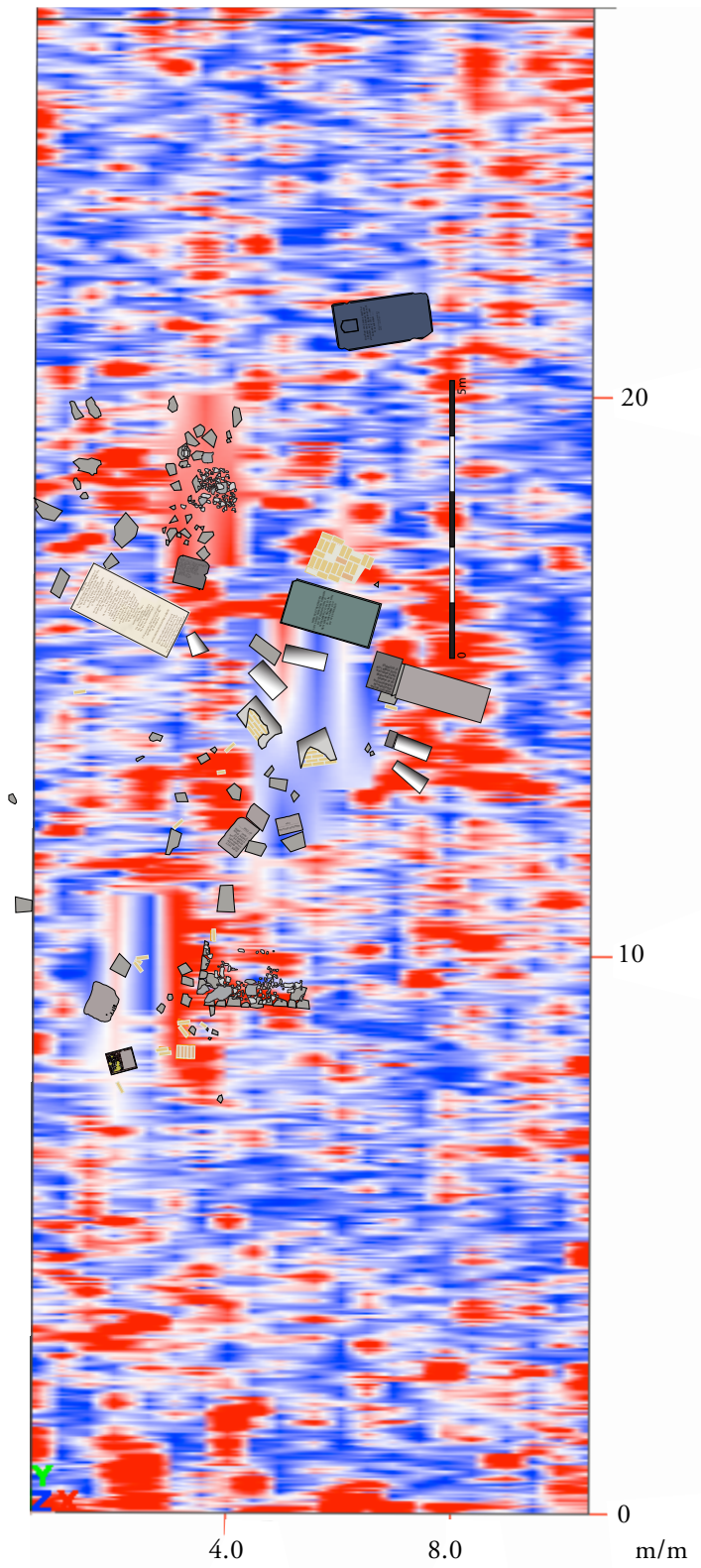


Figure 15.4:
Model M2, with
SE 133 detailed
map.

of interest. Note that every red patch on the maps is not necessarily an “object”. On rough ground, bounces of the antenna create false anomalies. The maps are also integrations of objects of natural and human origin. Soil and geological layers may show up in the GPR profiles, as will larger rocks in the soil horizon. Some parts of the survey area were not accessible because of debris. There are three of these areas (see the grid map), and they show in the GPR maps as broad areas with little detail. That is the result of RADAN attempting to interpolate values across areas of no data.

Interpretation

Interpreting GPR data is a combination of reading the radargrams, post-survey processing, and using field observations (“ground truthing”). SE133 is a very complicated site. On the surface, there are intact, disrupted, and probably obscured burial artifacts. A map of those artifacts has been correlated with the GPR maps to rule in which features of the radar information were caused by such sources. In this survey, objects from just beneath the ground surface to about 2 m were detectable. Depth maps below about 1.6 m, however, are deceptively intense. Default settings for the field survey apply a fairly strong gain to signals at depth, and that gain was not removed from data in this report. RADAN interpolation to create the 3-D models introduces a false linear grain in the depth maps. Here, that grain is parallel to the X-axis. Reducing this artifact would require much closer X spacing for the field survey, or de-stripping in post-processing beyond the scope of RADAN.

There are several undulating sub-horizontal reflections throughout the site. Where these reflections intersect a depth map, patchy, elongate anomalies result. Some of these reflections could be soil or bedrock features, but others could well be buried slabs or slab-like stones. There are also several rectilinear anomalies, some of which correspond to map-able surface or near-surface artifacts. Some anomalies appear within a limited depth range. These should be noted as possible burials.

SE133 contains a large number of potential archaeological targets embedded in a variety of earth materials. The following figures reproduce results from various depths. The final figure in this section (Figure 15.4) correlates some of the depth data to a detailed surface cemetery map.

Material culture remains

Trenches

The 21 trenches have given very little indication for the presence of significant material culture remains in this part of the Cul-de-Sac Plantation area. Material finds in the Cul-de-Sac Plantation area consist of sporadic and scattered shells, colonial pottery and roof tiles on the surface north of the dirt road, increasing somewhat in the trenches south of the dirt road closer to Benner’s Plantation (e.g. Figure 15.5).



Figure 15.5: Archaeological artifacts from the Cul de Sac area; upper left are Colonial ceramics including tin-glazed earthenware along the top and blue transferprint pearlware; at upper right stone artifacts. Lower left *Lobatus (Strombus) gigas*; lower right juvenile cow bone in situ in trench 18, feature 01.

Recovered remains include *Lobatus (Strombus) gigas*, and numerous Colonial plain ware ceramic sherds, and a smaller number of decorated Colonial sherds. In addition, a few modified stone artifacts were found. No finds indicative of pre-Columbian activity were encountered in this area.

Only the Boundary Ditch feature exposed during the trenching investigation contained artifacts. These artifacts included hand-blown case bottle glass, brown salt-glazed stoneware and a single kaolin clay tobacco pipe stem. The tobacco pipe stem bore diameter corresponds with those normally found in association with a mid-eighteenth century occupation period.

Test units

A total of ten test units were excavated at strategic location across the site

Test Unit #1 resulted in one Context (CXT 1). Eleven artifacts were recovered from this unit. Creamware was found, but no Pearlware ceramics. For St. Eustatius this is indicative of a pre-1780s occupation. The TPQ for this unit is (1762-1810 based on the finds in this unit). One westerwald stoneware sherd was also found.

Test Unit #2 resulted in one Context (CXT 2). Twenty-two artifacts were recovered from this unit. Blue floral transfer-print pearlware was recovered from this unit indicating an occupation sometime between 1783 and 1830. Other

artifacts recovered back up this interpretation. A sherd of micaceous low-fired Afro-Caribbeanware ceramic was found that is likely part of a sugar mold. One sherd of Chinese underglaze blue porcelain was also found.

A single Context (CXT 3) was identified in Test Unit #3. Thirty-eight artifacts were recovered from this unit. Blue floral transfer-print pearlware was recovered from this unit indicating an occupation sometime between 1783 and 1830. Other artifacts recovered back up this interpretation. One sherd of Chinese underglaze blue porcelain was also found.

Eight artifacts were recovered from the first Context (CXT 4) in Test Unit #4 adjacent to the sugar train. Blue Willow Pattern transfer-print pearlware was recovered from this unit indicating an occupation sometime between 1795 and 1830. Other artifacts recovered back up this interpretation. A sherd of micaceous low-fired Afro-Caribbeanware ceramic was found that is likely part of a sugar mold. One sherd of Chinese underglaze blue porcelain was also found. A hand-blown Pb crystal wine glass stem shard was also recovered in CXT 4.

The second context in Test Unit #4, CXT 5, contained forty artifacts in total. This was an ash deposit resulting from clearing out the nearby flue holes. Nails, some mammal bone and some unrefined earthenwares that are likely Dutch were recovered from this Test Unit.

Two contexts were identified in Test Unit #5 inside the distillery room. Context #6 contained no artifacts other than destruction rubble. Context #7 contained seventy-two artifacts. A single sherd of refined whiteware ceramic indicates that the distillery went out of use sometime after 1805. Other recovered refined earthenwares include creamware, pearlware (annular, transfer-print, and polychrome). Two disc shaped pearlware gambling counters were also found.

Test Unit #6 resulted in three Contexts (CXT 8, 11 and 12) inside the Big House foundation. Eleven artifacts were recovered from CXT 8. Blue shell edged pearlware was recovered from this unit indicating an occupation sometime between 1780 and 1815. Other artifacts recovered back up this interpretation. A sherd of micaceous low-fired Afro-Caribbeanware ceramic was found that is likely part of a sugar mold. A single Deltoied Rock Shell (*Thaias deltoidea*) was recovered. This species is a “last resort” source of protein and is thus reflective of a challenging economic period for the plantation occupants likely in the 19th century. Context 11 contained forty-seven artifacts. Of note are a sherd of North Midlands Slipware (1660-1745) and a sherd of European (English?) bone china (1794-present). Some items including a small Cu clothing hook clearly slipped through the floorboards while the building was still occupied. Context 12 contained fifteen artifacts. Of note are a sherd of North Midlands Slipware (1660-1745) and a hand-blown perfume bottle shard.

Two Contexts (CXT 9, 13) were identified in Test Unit #7 in the burial ground identified as “#5 east” in Stelten’s 2011 report. Thirty-five artifacts were recovered from Context 9. No pearlware was recovered from this unit indicating an occupation sometime before the 1780s. French Faience tin-glazed earthenware was also found. A pimkin or *koekenpot* foot was found and may relate to the nearby seventeenth century plantation complex about 20 meters to the southwest. One hundred twenty artifacts were recovered in Context 13. Of note are a sherd

of North Midlands Slipware (1660-1745) and a hand-blown perfume bottle shard. This deeper context contained a higher percentage of tin-glazed earthenware and no pearlware indicating an pre-1780s occupation period which correlates well with the identification of the probable 17th century plantation site to the southwest.

Two-hundred and eight artifacts were recovered from two contexts (CXT 10 and 14) in Text Unit #8 located in the burial ground identified as “#5 west” in Stelten 2011. Creamware, pearlware, coral fragments and hand-blown wine bottle glass make up the largest proportion of this number. The earliest datable ceramic sherd is metropolitan coarse earthenware dating to the 1630-1660 period. Annular pearlware dating to after 1795 was the latest. Of particular interest are cow foot bone fragments. Context 14 was a probable natural feature that contained only two artifacts (wine bottle glass and a bone fragment). The artifacts may be the result of bioturbation.

A Test Unit was begun at the far eastern end of the Benner’s Plantation complex. However it was not completed due to the presence of manchineel tree roots. Regardless, thirty-two artifacts were recovered from this unit. Of note are one sherd of beach worn white-saltglazed stoneware. The majority of ceramics include Creamware and pearlware corresponding with an occupation during the last half of the eighteenth century. Context number 15 was assigned to this unit.

The final context of note is Number 16 which was assigned to the fill in the excavated portion of the Boundary Ditch. Ten shards of hand-blown case bottle glass were recovered along with one kaolin clay pipestem and one brown saltglazed stoneware sherd—twelve artifacts in all. The artifacts indicated the ditch was

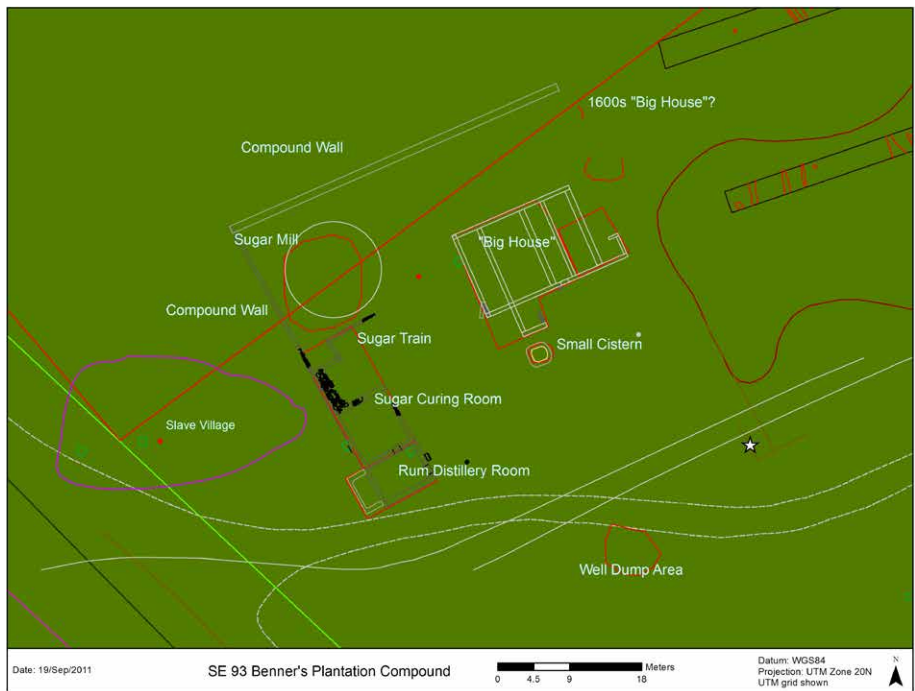


Figure 15.6: Overview of Benner’s Plantation Compound.

abandoned sometime after 1750. All artifacts are listed in Appendix 2 in the site report (Gilmore III, Hoogland & Hofman 2011).

Architectural assessment

The Benner's Plantation layout on the historic landscape is typical for St. Eustatius that is *atypical* for the Caribbean (Gilmore 2004, 2006, 2015). On almost every plantation in the Caribbean the plantation owner's house or Big House is located in a position where the occupants can directly observe the daily life of occupants of the slave village. On Benners, as elsewhere on St. Eustatius, the view of the village is blocked by the Industrial Complex. The Benner's Plantation Complex is a compound defined by a drylaid stone wall (Figure 15.6).

The Slave Village

The slave village was likely composed of several post-in-ground structures and features indicating this were identified in the test units excavated there. On the P.F. Martin 1781 map, the village is composed of eight structures. Another slave homes are located to the southeast of the plantation complex adjacent to the old road entrance. Domestic artifacts recovered from Test Unit #7 may also relate to this occupation area.

The Industrial Complex

The Industrial Complex is composed of two primary structures. First, the animal mill (indicated on Figure 15.6) was located to the north of the sugar processing facility and upon the highest ground in the area. Animals such as oxen or donkeys were used to drive the mill to crush cane which then flowed to the nearby sugar boiling complex. The first of three rooms running roughly north to south at the Benner's Plantation Industrial Complex was the sugar boiling room containing a series of four sugar boiling kettles or coppers. Flue holes can be found below each kettle site as well as a larger flue hole associated with the chimney stack at the north end of this room. The room was likely accessed from the east. After boiling, the sugar syrup was quickly transferred to conical sugar molds with nipples at the base. These were placed inside sugar trip jars which were then placed on shelves in the next room in the Benner's Industrial Complex—the sugar curing room. Here molasses dripped from the nipples into the jars below. The end product was a sugar cone of brown or demerara sugar. The waste products from this process were then utilized in the third room of this complex—the rum distillery. Here a relatively small still was used to process these remains into another salable commodity. Rum and sugar could then be brought to the port for export. At the western end of this room is a vat that could be mistaken for a cistern that was used to cool down the coiled copper pipe or worm where alcohol condensed. From the end of this pipe would drip the distilled rum.

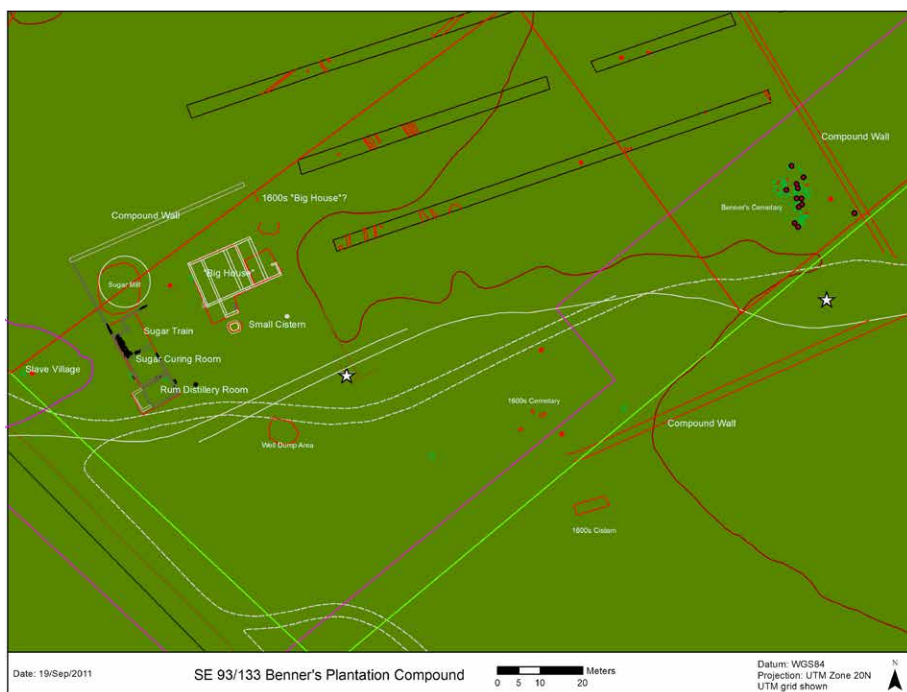


Figure 15.7: Overall view of colonial sites, note probable 1600s cistern and cemetery.

The Big House

Benner's Plantation Big House layout is typical of a wide reaching rebuild across the island that was likely the result of the massive hurricane in October 1780 (Figure 15.6). Much island architecture was destroyed during this storm. At neighboring Schotsenhoek Plantation, it appears that the 17th century primary dwelling was raised to make space for an entirely new structure. At Benner's currently visible foundations indicate that a new building was built separately from the old home. The remains of this older stone built structure are those found furthest to the west in the plantation compound. The new plantation house foundation likely reused stones from this building as was the case at Schotsenhoek. In contrast to Schotsenhoek, the house foundation does not appear to contain a useable cellar space and is instead a simple series of low stone walls that supported floor joists above the ground level.

The home appears to have faced west—directly towards the sugar industrial area and represents a transition in the viewscape or the resident's perception of what was important at that time. The view was no longer towards town, but to the Caribbean and Oranje Bay beyond—a place where wealth was generated for the owners. Beyond Benner's also to the west is the Godet Plantation. Here it appears that the original plantation Big House survives—likely dating to the early settlement period in the 1600s. Thus, the three plantations found in the immediate vicinity of Cul-de-Sac Plantation we can find the complete story of Statia's plantation economy through its architectural manifestations.

Likely 1600s plantation Complex

This site is located south of the main access road and south of the boundary wall cutting across the property west to east. As indicated by Stelten, these structures are represented on the 1742 and the 1775 Ottens maps. The cistern is bounded on the north by a dry-laid stone wall. To the east of the cistern are the ephemeral remains of another structure (Figure 15.7).

Conclusion

At the time of the project, this was the largest ever archaeological survey undertaken in the Caribbean region. In total 21 trenches, covering 6,712 m² of terrain, were excavated in the Cul-de-Sac Plantation area; none yielded evidence of pre-Columbian occupancy of the area. The trenches yielded a very small number of Colonial period remains, with the southernmost four trenches, 18 to 21 (closest to Benner's plantation), yielding slightly more remains than trenches 1 to 17. The results of Phase 2 investigations clearly show that the excavated area of the Cul-de-Sac Plantation terrain, comprising 5-10% of the total area, was used during the Colonial period, predominantly for agricultural activities. This part of the terrain has shown no evidence of domestic use in the Colonial period, with no indications of house structures, a slave village or a slave cemetery. As yet, a portion of the Cul-de-Sac Plantation terrain has not been tested for archaeological remains, as this part of the terrain is currently used for the storage of waste material and scrap metals. As such, our knowledge of the possible pre-Columbian and/or Colonial use of this part of Cul-de-Sac Plantation is insufficient to evaluate its archaeological significance.

Most pre-Columbian remains on St. Eustatius and in the Caribbean in general comprise very shallow deposits (often no more than 0.50 m under the surface), which means that they are extremely vulnerable to natural and human impact.

The fact that a number of previously documented pre-Columbian sites on the island could not be relocated suggests that they may have been destroyed by erosion processes. Most archaeological finds that were retrieved from these sites were recovered from the surface, rather than from the underlying soil deposits. This indicates that processes of natural soil deposition have been disturbed and cultural deposit layers have been lost, both due to the lack of protection from new layers of deposition and due to severe erosion processes taking place. The site of Godet currently comprises the only prehistoric cultural deposit on the island which still stands to yield significant information on the pre-Columbian occupation of the island. These sites are, however, under immediate threat from the aforementioned erosion processes, and the impact of future developments (construction and use of the new jetty) in the direct vicinity of these sites remains unclear at this point in time.

Test excavations among the Benner's Plantation compound indicate a long occupation period for the site--likely from initial settlement into the 20th century. Colonial stratigraphy is shallow in some areas and fairly deep in others. The cemetery area to the south of the plantation compound has provided some evidence for burials other than those that are indicated with European style markers. The

precise location of Benner's Well could not be mapped as the top of the well is like buried well below grade and/or beneath another area of the mound of refuse dumped on top of the well during the 1970s.

The ground penetrating radar survey indicates that there may be more burials at the plantation burial ground (SE 133) than are represented by those visible on the site. Most targets found by the ground penetrating radar do correspond with known targets on the surface.

Shortly after the project was completed, NuStar Energy decided against further development of the Cul-de-Sac area. Furthermore, geo-political and economic factors including the massive increase in oil production in the US have significantly decreased the need for additional storage capacity at NuStar's St Eustatius location. For the time being, it would appear that no further threats to cultural heritage resources are being made by oil terminal expansion.

Finally, the authors would like to highlight this project as successful example of university, NGO and volunteer cooperation in archaeology for the Caribbean region. The project could not have been completed with such success without the combined labor brought to bear upon this very large survey. Most importantly, it is the first example of the Valetta Treaty being utilised to guide cultural resource management in the Dutch Caribbean after the completion of the 10-10-10 political transition for the former Netherlands Antilles³².

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Heritage management of an 18th-century slave village at Schotsenhoek plantation, St. Eustatius

Ruud Stelten

Introduction

In May 2012 the St. Eustatius Center for Archaeological Research (SECAR) was contracted to carry out an excavation at a property locally known as ‘The Farm’, belonging to NuStar, the island’s oil terminal. NuStar’s plan to construct a new laydown area was going to impact an archaeological site identified by the author in 2011 during an initial survey and the digging of a test trench. Situated on a hill slope, the area was planned to be leveled thus impacting any features of past human activity that might have survived in the ground. During the 2011 campaign the site was determined to be the late-eighteenth- to early-nineteenth-century dumping area for the adjacent Schotsenhoek sugar plantation. Beneath the thousands of artifacts collected in the test trench, several earlier features (postholes and pits) were discovered. The main goal of the 2012 campaign was to document any additional features present below the deposits from the dumping area. For six weeks in May and June, the author and several volunteers excavated and documented 188 features, and collected and analyzed numerous artifacts.

After analysis of the findings, the site could be interpreted as a village of enslaved Africans. The investigators presumed that there were still parts of the slave village that had not been excavated. Therefore, in January, February and March 2013 a field school was set up and the remaining parts of the settlement were investigated with the help of students and volunteers. In these subsequent campaigns, another 175 features were excavated and documented. In this chapter, the combined findings of the 2012 and 2013 campaigns are described in detail and an interpretation as to the nature of the site is given, following an introduction into the history of slavery and the slave trade on St. Eustatius.

Slavery and the slave trade on St. Eustatius

In the 1630s the Dutch conquered parts of Brazil and Guinea. From this time on they improved their position as slave traders. In the period 1660-1670 Curaçao developed into an important slave depot for the West Indies. After 1730 everyone was allowed to export slaves from the Dutch West African coast, but had to pay tribute to the Dutch West India Company (WIC) to do so. The WIC lost a lot of money to smugglers who did not pay and could offer slaves for a cheaper price. On St. Eustatius these smugglers sold a lot of slaves, since the WIC failed to supply slaves time and time again.

As early as 1675 St. Eustatius provided the French, Spanish and English islands with African slaves. By 1725 the Dutch shipped 2000 to 3000 slaves annually to the island, almost all in transit. Slave ships brought their cargo to Statia to be auctioned to buyers from the surrounding islands. Fort Amsterdam, at Oranje Bay's northern end, hosted slave auctions and served to store slaves. Initially, the main building consisted of only one storey; however, it was expanded to two storeys in 1726 in order to accommodate additional slaves. Sometimes the slaves were transferred from one ship to another without even setting foot ashore.

Enslaved Africans were delivered dressed, and if one wanted to get a good price for a slave, he/she needed to be well fed. The Statian slaves worked not only on plantations, but also as crewmen on ships, as ship workers, transporters of goods to and from ships, and as servants. They possibly also helped in distilling rum from illegally imported raw sugar. The Transatlantic slave trade reached its peak in the early 1770s. Towards the end of the eighteenth century people started to protest against slavery. The slave trade in the Dutch colonies was ended in 1814, but it was not until 1863 that the Dutch abolished slavery.

In St. Eustatius' urban center slaves lived both in and around the merchants' homes; various inventories indicate that slave dwellings were part of these properties in addition to other outbuildings. There is also strong evidence that a large number of freed Africans lived in areas at the periphery of Oranjestad. On the plantations slaves lived in little villages, often referred to as the 'slave quarters' or 'slave villages.' Interestingly, whereas on most other Caribbean islands the slave dwellings were in sight of the plantation owner's house, on Statia this was not the case, suggesting that surveillance of the slaves' home lives was more limited. Elsewhere owners placed the slave houses in areas that were more easily observed. However, due to the small size of Statia the slave owners may have felt no need to constantly watch their slaves. As a result, the slaves of St. Eustatius probably experienced a much different physical and social environment than those living on other islands. On Statia slaves moved between the plantations and throughout the trading district with relative ease.

Thus, living conditions were likely less difficult for slaves on Statia compared to those in other places. Here they could earn money with which eventually they could purchase their freedom. These so called 'free blacks' would sometimes have a few slaves of their own. Nevertheless, it often happened that slaves tried to escape, not always without success. In 1750, a ship named the *Young Elias* lay at anchor at St. Eustatius. Four slaves captured the ship, hoisted sail and escaped to Puerto

Rico, where, once they were baptized, they did not have to worry about being sent back.

Research methodology

The site was investigated during two campaigns, each in three phases. In 2012 a 45×15 m trench was excavated in three phases. The first phase consisted of removing the topsoil on a 45×5 m strip using a mechanical excavator with a 2-m wide smooth bucket. Two trenches of 45×5 m each were later added to the original trench. The trench was located on a slope: the thickness of the layer of topsoil ranged from 60 cm in the northern, lower part of the trench to 20 cm in its southern, higher part. Immediately below the top soil, a yellow layer of soil and gravel appeared in which a large number of features were identified.

Based on the results of the 2012 campaign and the area that was still available for excavation (many things are stored around the site), it was decided to expand the existing trench in three phases. The first two phases consisted of expanding the trench in east-west direction by adding two 45×4 m strips. The third phase comprised an expansion of 8×12 m on the southeastern corner.

All features deeper than 5 cm were photographed and drawn in section, and a site plan of all features was drawn. Drawings were made on weatherproof DECAL PS 097 drawing paper and digitized in Adobe Illustrator. All artifacts recovered from the features were collected and analyzed in the SECAR laboratory and subsequently stored at the SECAR storage facility.

Results and interpretation

The plan view of the excavation (Figure 16.1) shows 363 features comprising at least nine structures. Features included pits, plough scars, ditches, a hearth, and two animal burials, but the majority of features were postholes. On the basis of the spatial relationship of the features, the artifacts found in them, and the site's location in the landscape and in relation to the neighbouring plantation buildings, the findings are interpreted as a slave settlement. The evidence can be detailed as follows.

Spatial relationship of the features

Many posthole features form rectangular structures, sometimes with pits inside. All structures except for Structure 6 are interpreted as slave dwellings. They consisted of postholes forming rectangular structures with areas between 8 and 21m². In Caribbean slave settlements, most activities such as cooking and socializing were done outside; the huts were places to sleep. Each hut probably housed several people. There were several ditches inside and around the settlement. The two parallel ditches in the southern part of the excavation probably mark the edge of the settlement. In the center of the excavation, three features filled with charcoal and burnt clay mark the location of a hearth. In the northern part of the excavation a fence likely marks the location of the provision grounds. On the northern and southern edges of the settlement, two animal burials were encountered.

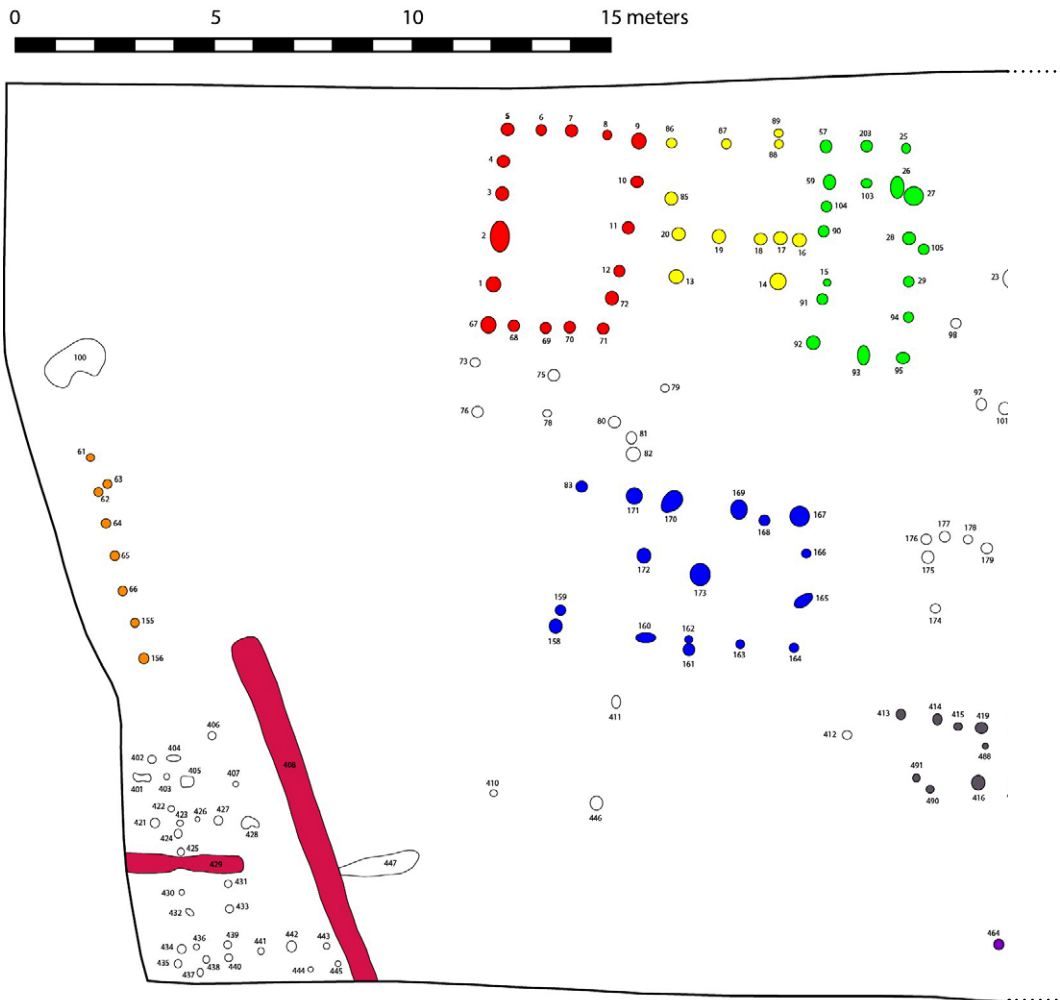


Figure 16.1: Plan of the excavation at the Schotsenhoek Plantation, St. Eustatius.

Artifacts from the features

More than half of the features contained artifacts, which provide clues as to the material culture used at the site. The majority of artifacts are ceramics and of these the third largest category are Afro-Caribbean wares. The many nails found in the excavation indicate that some dwellings in the Schotsenhoek slave village were, at least partly, constructed of wooden boards.



Schotsenhoek slave settlement
 Plan drawing
 June 2012 & February 2013 combined
 Ruud Stelten



Location in the wider plantation landscape

The estate owners of most plantations in the Caribbean wanted to keep a close eye on their slaves. As mentioned above, this was different on St. Eustatius. The configuration of plantation buildings on Statia was usually as follows: the Great House was located upwind from all other buildings; downwind from the Great House was the industrial complex (crushing mill, boiling house, curing house, rum distillery), downwind from the industrial complex and *out of sight* from the Great House was the slave village. This configuration could be seen at many plantations on the island including the the relatively large English Quarter and Fair Play estates



Figure 16.2: Reconstruction drawing of the slave settlement and adjacent buildings at the Schotsenhoek Plantation, St. Eustatius, based on archaeological and historical evidence. The seven dwellings found during the excavation are to be seen in the foreground with the provision grounds situated to the left and the hearth in the center of the settlement. Located upwind from the slave settlement was the industrial complex with an animal crushing mill, a boiling house, a curing house, a well, and a storage building. The buildings in the background are the Great House and kitchen where the plantation owner lived. The planter's cemetery can be seen to the left. Drawing made by Andy Gammon, June 2013.

and the neighbouring Benners Plantation. The same configuration is also present at Schotsenhoek Plantation: the excavated site is located downwind from all other plantation buildings and out of sight from the Great House. SECAR hired an archaeological reconstruction artist for making a reconstruction drawing of the slave village and the neighboring plantation buildings (Figure 16.2).

Documentary evidence provides some clues on the slave villages at Schotsenhoek Plantation and the other estates of the island. Zimmerman l'ainé, a traveler who visited St. Eustatius in 1792, briefly described the slave villages on the island: 'On each plantation there is usually a village of 30 to 40 little huts, where the poor creatures live.' Thus, the Schotsenhoek slave village might have been substantially larger than the seven dwellings found during the excavation., Many slave huts are depicted on the 1781 P.F. Martin map. Apparently, there was a slave settlement at every plantation on the island. Zimmerman also made a sketch of a slave village (Figure 16.3), which gives some idea of what they may have looked like.

The 1781 P.F. Martin map shows the slave village at Schotsenhoek Plantation to be located on the northern side of Signal Hill. An inventory of all possessions of Mr. Venancio Fabio, dating to 30 April 1811, lists Schotsenhoek (called Naples at the time). According to this inventory, there were 'two rows of negroe houses

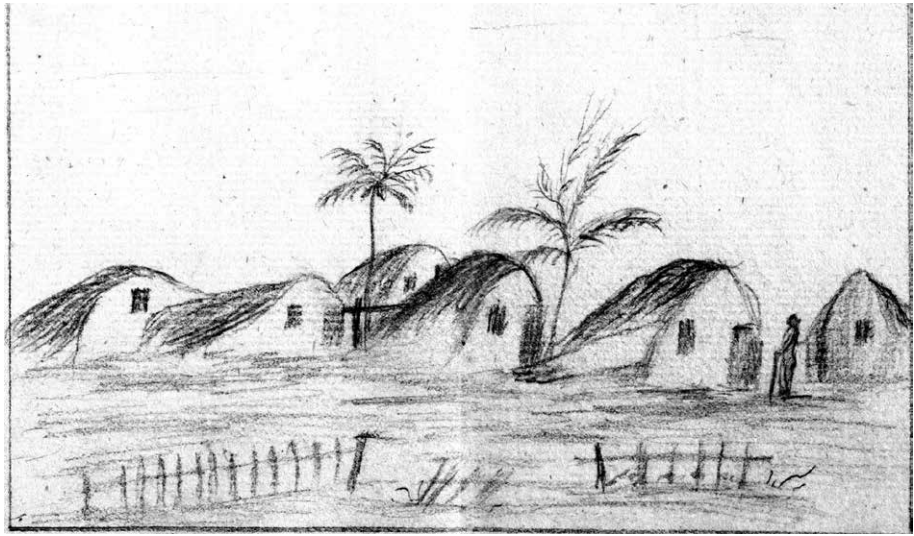


Figure 16.3: Station slave village drawn by Zimmerman l'ainé in 1792.

built of wood, consisting of fourteen apartments' at Schotsenhoek Plantation. The inventory further lists the names and occupations of the 68 slaves living and working at the plantation. This description might refer to the slave village shown on the 1781 map, but it is more likely that the village was relocated again, as the slave dwellings are listed amongst the other buildings related to the sugar plantation. This suggests that, at least in some instances, slave villages were never in the same place for a very long time.

Over 2000 artifacts were found during the excavation. The vast majority of ceramics collected from the features (566 fragments in all) comprised tin-glazed earthenware (62%), followed by slipware (10%), Afro-Caribbean ware (7%), other coarse earthenwares (6%), stoneware (4%), porcelain (3%), and whiteware (1%). Pearlware and creamware fragments only represent a very small portion of the total ceramic assemblage (3% and 4%, respectively), and were nearly all found in the southern part of Feature 418, a ditch which in its southern part was only covered by about 15 cm of topsoil. It is very likely that the pearlware and creamware fragments found in this ditch were ploughed into the feature after the slave village fell out of use. Consequently, they can be viewed as a form of contamination and should not be used in the analysis. Several plough scars just to the east of this ditch support this interpretation. Thus, the absence of pearlware in context suggests a pre-1780s date for the use of the settlement. The absence of creamware in context pushes the date back even further, and suggests that the site dates to before the 1760s.

Eight Dutch pipe bowls with heel marks were found, two of which date to the periods 1679-1768 and 1684-1743, and six that have *terminus post quem* dates of 1720, 1726, 1731 and 1740. A drinking glass found in Feature 191 dates to between 1705 and 1715, while another drinking glass from Feature 418 also has an early eighteenth-century date. Part of a shoe buckle found in Feature 191 has a *terminus post quem* of 1720. Several other finds, including many wine bottle

fragments and two drinking glass stems, also fall into the early- to mid-eighteenth-century date range. The pipe fragments and other finds thus indicate that the site was in use during the early- to mid-eighteenth century.

Furthermore, a total of 86 iron nails were found, which indicate that some dwellings may have, at least partly, been made of wooden boards. The majority of nails were found in the southern parts of the excavation. Features that contained most nails were actually not part of any dwelling.

The large variety of artifacts indicates that the enslaved population of Schotsenhoek Plantation had access to many European goods, and were using relatively few locally made ceramics (Figure 16.4). Artifacts such as fish hooks, buckles, and grinding stones, provide a glimpse of the day-to-day lives of slaves working and living on this estate. Clearly, slaves were not only relying on their owners for food, but were collecting and preparing food themselves as well, as is evidenced by the fish hook and grinding stone found in the excavation. The shoe buckle found in one of the features indicates that some slaves may have been wearing shoes, which was not allowed in all Caribbean colonies. Whether slaves acquired these European goods through stealing, trade, or were perhaps gifts, is unclear, but the historic records point to a combination of these.



Figure 16.4: Polychrome Dutch Delftware plate, dating to 1730-1740. Eight of these plates were found on top of each other, all with the same decoration. The picture shows pieces from different plates on top of each other.

It was not possible to determine whether all structures were in use simultaneously. Given the spatial relationship between them, it seems that several probably were. However, the large number of postholes in the southeastern part of the excavation might indicate the location of several dwellings built at different times. In this area various alignments of postholes were to be seen, but no clear house plans could be identified. The structures and individual features can be described in more detail, as follows.

Structure 1. This is the northernmost structure (Figure 16.1, red), measuring 5 m in length and 3.25 m in width, a total area of approximately 16.25 m². It was oriented roughly east-west. There was no clear indication of the entrance. The structure consisted of eighteen postholes, all comprised of dark-grey and dark-brown/grey loamy sand. All but one were sectioned; Posthole 4 was not sectioned because it was only 4 cm deep. The shallowest sectioned posthole (#70) was 8 cm deep, the deepest one (#7) 38 cm. Four postholes exhibited a post mold. Six postholes contained artifacts and ecofacts: several fragments of tin-glazed earthenware and Afro-Caribbean ware, one fragment of Rhenish stoneware, several small glass fragments, one large nail, several pieces of coral and shell, and two pipestems.

Structure 2. This structure was situated south of Structure 1 (Figure 16.1, green). It measured 5.3 m in length and 2.25 m in width, a total area of approximately 12 m². It was oriented roughly east-west. The entrance might have been located on the structure's northern side, between Posts 15 and 90. The structure consisted of eighteen postholes, all comprised of dark-grey and dark-brown/grey loamy sand. All but two were sectioned; Postholes 94 and 203 were not sectioned because they were only 4 and 5 cm deep, respectively. The shallowest sectioned posthole (#57) was 11 cm deep, the deepest ones (#15, 59, 91, 95) 30 cm. One posthole exhibited a post mold. Five postholes contained artifacts and ecofacts: two fragments of tin-glazed earthenware, one fragment of Rhenish stoneware, one fragment of slipware, two pieces of glass, three pipestems, one fragment of Afro-Caribbean ware, one fragment of iron, and one piece of coral.

Structure 3. This is the southernmost structure (Figure 16.1, light purple). It measured 4.25 m in length and 2.5 m in width, a total area of approximately 10.5 m². It was oriented roughly east-west. The entrance might have been located on the structure's southern side between Posts 146 and 148, or possibly between Posts 37 and 58. The structure consisted of nineteen postholes, all comprised of dark-grey and dark-brown/grey loamy sand. The fill of all postholes on the structure's southwestern side consisted of dark-brown/grey loamy sand. All but one were sectioned; Posthole 37 was not sectioned because it was only 4 cm deep. The shallowest sectioned posthole (#70) was 11 cm deep, the deepest ones (#45 and 149) 34 cm. One posthole exhibited a post mold. Five postholes contained artifacts and ecofacts: three fragments of tin-glazed earthenware, one fragment of Afro-Caribbean ware, one large fragment of Fulham stoneware, one fragment of salt-glazed stoneware, three pipestems, one pipebowl fragment, three nails, two pieces of glass, two bone fragments, one *Cittarium pica* shell, and one piece of flint.

Structure 4. This the structure furthest to the northwest (Figure 16.1, dark blue), measuring 6 m in length and 3.5 m in width, a total area of approximately 21 m². This was the largest structure encountered; it was oriented north-south. The entrance might have been located on the structure's northern side, between Posts 83 and 159. The structure consisted of sixteen postholes and one pit (#173), all comprised of dark-grey loamy sand. Postholes 161, 162 and 163 were not sectioned, as they were only 3, 5, and 5 cm deep, respectively. The shallowest sectioned posthole (#160) was 12 cm deep, the deepest one (#83) 42 cm. The pit had a maximum depth of 20 cm. The deepest postholes of this structure were found at its eastern side, the direction of the prevailing winds. Postholes 83, 158 and 159 may mark the posts that formed a small porch. Nine features contained artifacts and ecofacts: five fragments of slipware, one fragment of Afro-Caribbean ware, one fragment of tin-glazed earthenware, two nails, one piece of scrap iron, three pipestems, one piece of coral, two bone fragments, three brick fragments, two undetermined stone artifacts, one half of a grindstone, one glass fragment, and a large chunk of mortar with plaster on one side.

Structure 5. This is the structure furthest to the southwest (Figure 16.1, light blue), measuring 7 m in length. It was not completely recorded, as too much soil was removed by the excavator in order to expose the ditch. The structure seems to have been oriented north-south. The documented part of this structure consisted of fifteen postholes and one sub-floor pit (#190), all comprised of dark-grey loamy sand. Postholes 187, 193 and 195 were not sectioned, as they were only 5, 4, and 5 cm deep, respectively. The shallowest sectioned posthole (#204) was 12 cm deep, the deepest ones (#188, 189, 196) 48 cm. The pit had a maximum depth of 32 cm. The deepest postholes of this structure were found at its eastern side, the direction of the prevailing winds. Nine features contained artifacts and ecofacts: four fragments of tin-glazed earthenware, one ceramic gaming piece, one fragment of slipware, four bone fragments, two pipestems, four pieces of glass, one piece of coral, one nail, and one fragment of Afro-Caribbean ware. The subfloor pit (Feature 190) contained fourteen fragments of tin-glazed earthenware, three fragments of Afro-Caribbean ware, seven fragments of slipware, four pipestems, three pipebowl fragments, seven bone fragments, two fragments of stoneware, three nails, nine pieces of glass, and one fragment of coarse earthenware.

Structure 6. This is the row of posts in the northwestern corner of the excavation (Figure 16.1, orange), almost certainly representing a fence given the fact that the postholes were perfectly aligned, relatively shallow, and located on what is believed to be the edge of the settlement. It might have been a fence linked with the slaves' provision grounds. It is highly likely that the structure continued further west of the excavation. The part of the structure that was documented consisted of eight postholes, all comprised of dark-grey loamy sand. The shallowest sectioned posthole (#66) was 8 cm deep, the deepest one (#156) 16 cm. One feature yielded two artifacts: a fragment of tin-glazed earthenware and one of Afro-Caribbean ware.

Structure 7. This structure (Figure 16.1, yellow) is located between Structures 1 and 2. It may have been a connection between the two structures. As there is no clear sign of a doorway into the other structures, it might have been a shed. The structure consisted of twelve postholes, all comprised of dark-grey loamy sand. Postholes 85 and 87 were not sectioned, as they were only 5 cm deep. Posthole 86 was an estimated 12 cm deep, but had already been disturbed too much to record. The shallowest sectioned posthole (#88) was 10 cm deep, the deepest one (#14) 18 cm. Two features contained artifacts: a glass fragment and a piece of tin-glazed earthenware.

Structure 8. This structure (Figure 16.1, dark purple), located at the excavation's western part, measured approximately 4×2.5 m, covering a total area of about 10 m². Oriented north-south, the structure's entrance was facing north. It consisted of 19 postholes, all comprised of dark-grey loamy sand. Feature 453 exhibited a post mold. Features 449 and 463 were not sectioned as they were less than 5 cm deep. The shallowest sectioned posthole (#457) was 9 cm deep, the deepest one (Feature 464) 30 cm. Only one posthole (#454) contained artifacts. These consisted of four fragments of tin-glazed earthenware, one pipestem, and one fragment of a *Cittarium pica* shell.

Structure 9. This was the smallest dwelling (Figure 16.1, grey), located between Structures 4 and 8. It measured approximately 4×2 m, a total area of about 8 m². Oriented north-south, the structure's entrance faced north. It consisted of fourteen postholes, all comprised of dark-grey and dark-brown loamy sand. Features 415, 417, 420, 486, 487, 488, 490, and 491 were not sectioned as they were less than 5 cm deep. The shallowest sectioned posthole (#416) was 6 cm deep, the deepest one (#413) 36 cm. Three features contained artifacts: two pieces of glass, one fragment of a *Cittarium pica* shell, one piece of tin-glazed earthenware, and one brick fragment.

Other features. Several other features are worth noting. Feature 100 was an animal burial. While it was not possible to identify the species in question because of the deteriorated condition of the skeleton, the positioning of the bones indicates that it was a quadruped. No artifacts were associated with this feature. Feature 468 was an animal burial as well, which after analysis was found to be a donkey. This feature contained many artifacts, including ceramics, shell, and glass. The presence of creamware indicates that the slave village predates this burial.

Feature 110, with a depth of 3 cm, contained a large amount of charcoal. The nearby Features 107 and 108, both postholes, contained charcoal fragments and burnt clay. Feature 110 was thus most likely the site of a hearth.

Features 21, 191, 408, 418 and 429 were ditches with depths of 26, 26, 20, 22, and 5 cm, respectively (Figure 16.5). Features 21, 408 and 429 contained surprisingly few artifacts, while Features 191 and 418 contained many. This may indicate that the latter two features mark the edge of the settlement where much waste was dumped. The ditches in the center of the settlement would have been kept clean. Features 133, 134, 505, and 579 were plough scars between 2 and 5 cm deep.

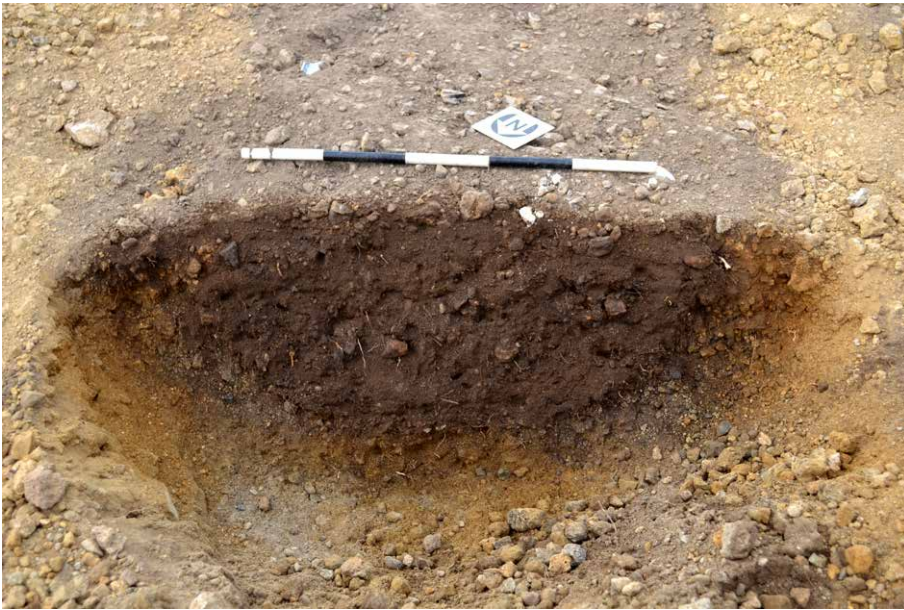


Figure 16.5: Section of Feature 191, a ditch on the edge of the settlement. Length of scale 50 cm.

In addition to the numerous eighteenth-century finds, a twenty-minute search on the spoil heap resulted in the recovery of twenty pre-Columbian ceramic fragments, all dating to the late Saladoid period, contemporaneous with the Golden Rock site excavated near the airport in the 1980s. This indicates that most likely a prehistoric habitation site is to be found close by, although its exact location could not be determined.

Conclusions

From May 2012 to March 2013, a village of enslaved Africans was excavated at Schotsenhoek Plantation on St. Eustatius in the Dutch Caribbean. During the investigation, seven dwellings could be identified, in addition to five ditches, a hearth, two animal burials, several plough scars, and numerous postholes and pits. The features were clearly visible in a yellow layer of sand and gravel immediately below the topsoil. On the basis of the artifacts found during the excavation, the site was dated to the early- to mid-eighteenth century. The village was located on a slope downwind from the plantation's industrial complex and Great House, and out of sight from the latter. This configuration can be seen on many sugar plantations on St. Eustatius, and suggests that Statian slaves may have enjoyed more freedom than slaves on other islands.

Over 2000 artifacts were found in the excavation. They shed light on the lives of the enslaved population of the Schotsenhoek estate. These artifacts clearly indicate that the slaves were using a wide variety of European goods in addition to some locally made ceramics. Whether these European goods were acquired through trade, stealing, or were perhaps gifts, is unclear, but the historic records point to a combination of these means. The favorable economic climate on St. Eustatius

would have enabled slaves to acquire many goods that may have been out of reach for slaves on other islands. This is evidenced by the artifact assemblage from the Schotsenhoek slave village.

Historical and archaeological evidence shows that slave villages, at least in some instances, were not permanent settlements, but often moved from one place to another on a particular plantation. As slave dwellings were usually made of wattle-and-daub or wooden boards with thatched roofs, the structures were very vulnerable to tropical storms and hurricanes and needed to be rebuilt frequently. When the slave village found in this investigation was abandoned, it started to be used as a dumping area for the plantation, as is evidenced by the thousands of late-eighteenth- to early-nineteenth-century artifacts found in the topsoil.

This excavation has provided many new insights into slave habitation sites, and represents one of the largest excavations of slave quarters in the Caribbean. Furthermore, it was shown that Dutch excavation methods – excavating a large area by removing the topsoil with a mechanical excavator until features are clearly visible in the layer below – can be a significant contribution to Caribbean historical archaeology. This way, large habitation sites can be completely excavated in a relatively short period of time. In addition, a very good overview of the site is given by the large trenches that are opened.

The settlement was not completely excavated because part of it was not under threat of development. The presence of Saladoid ceramics in the spoil heap further indicates that there is probably a pre-Columbian habitation site nearby. It is thus likely that many more structures, both prehistoric and historic, are present in this very rich archaeological area.³³

33 SECAR would first and foremost like to thank everyone at NuStar Energy L.P., but especially Mike McDonald and Tony Durby, for allowing us to conduct this research on their property. Special thanks are due to Professor Corinne L. Hofman and Dr. Menno L.P. Hoogland of the Faculty of Archaeology at Leiden University, and Suzanne Sanders, who assisted us with the fieldschool. We received help in the field from many people: Gudrun Labiau, Benjamin Hull, Saskia Clausager, Amanda Guzman, Esther Plomp, Olga Schats-van Driessen, Brooke Mealey, Katrien Janin, and the entire EUROTAST research group: Hannes Schroeder, Erna Johannesdottir, Jessica Hendy, Judy Watson, Carlos da Silva Jr., Cesar Fortes Lima, Marcela Sandoval Velasco, Hákon Jónsson, Ryan Espersen, Petr Triska, Anuradha Jagadeesan, Sarah Abel, and Winston Phulgence. We are indebted to Rianne van Rijswijk for digitizing many drawings, and to Breanne Johnson for piecing together several ceramic plates. Special thanks are due to Gay Soetekouw for arranging many practical things during the excavation and the field school.

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Heritage management on St. Eustatius

The Dutch West Indies headquarters project

R. Grant Gilmore III and Louis P. Nelson

Introduction

The first cultural heritage management organisation on St Eustatius, the St. Eustatius Historical Foundation, was established in 1974. During the 1980-1990s numerous archaeological projects, including site inventories, were conducted by Norman F. Barka and his students at the College of William and Mary (USA) and also by Leiden University's Aad Versteeg. Much of Barka's work was conducted in conjunction with a number of building restoration/renovation projects completed during the 1980s.

The Island Territory first drafted a Monuments Ordinance in 1989. A Monuments Foundation was established in 1990, and in 1992 the Curaçao based architecture firm Plan D2 compiled a "Master Plan for the Oranjestad Historic Core Restoration," which led to an inventory of 110 monument sites by Saskia de Kock in 1995, and two more urban historic renovation plans for the island in 1996 (Plan D'2 1989; Haviser and Gilmore 2011). The St. Eustatius Center for Archaeological (SECAR) was initially conceived in 1997, however, funding for the project was not made available until 2004. The author was the founding Director and also acted as the Island Archaeologist in the service of the St Eustatius Island Government. With SECAR, the significance of archaeological heritage on St. Eustatius is reaching a broader public and professional audience than ever before (Gilmore 2006a, 2006b, 2006c, 2006d, 2008, 2009, 2013, 2014a, 2014b).

In May 2008, a monuments ordinance was passed by the Island Council, however, there is still no local protection for archaeological heritage in place; the St. Eustatius Center for Archaeological Research (SECAR) has spearheaded an effort to alleviate this issue. SECAR has an unusual opportunity to heavily influence how Dutch heritage laws will be implemented on the BES islands (Gilmore & Dijkshoorn 2005). Of primary importance is the aforementioned European Union Valetta Convention. Under the Valetta Treaty, all archaeological heritage within a signatory's country is protected. Each nation decides how to enforce the tenets of the treaty and to what extent research archaeology is permitted. As it now stands

in the Netherlands, commercial archaeology conducted prior to development is the only option. Also, all archaeology is paid for by the developer—not the government.

The CRM project described here was conducted prior to the implementation of any EU or local legislation governing archaeological sites and architectural monuments. The project was planned, conceived and completed as a potential model for future restoration and archaeological work on the island.

Project Overview

The St. Eustatius Center for Archaeological Research conducted archaeological and architectural research at what is locally called the “Mazinga” Warehouse, Lower town, St. Eustatius between 1 February and 5 August 2008. It is known as Mazinga as the owners are also the owners of the Mazinga Giftshop located in Oranjestad, St Eustatius. Mazinga itself is the name of the highest point on the Quill volcano. Mazinga has no historical relationship to the structure discussed in this chapter. The owners of the building, T. and L. Durby communicated with the Island Archaeologist and decided to document the site prior to restoration in order to guide the overall effort. The structure has since been restored and serves as a beachside gift shop and loft apartment.

The site consists of a standing brick three-room structure measuring 9.89 by 14.65 meters (32.45 by 48 feet). It is located at Oranje Bay along the island’s eastern shore (Figure 17.1). It has been given site number SE 343 in the site inventory for the island (Eastman 1996). The Bay Road runs parallel to its eastern side, while the recently (2011) renovated Dutch West India Company warehouse serves as a dive shop to the north and a hotel complex abuts the property to the south. As would be expected at an urban seaside location with long human occupation, the site stratigraphy is complex and lies upon a historic foreshore buried under over 2 meters of human and natural stratigraphic deposition. The site includes over three centuries of construction and destruction history.

St Eustatius Historical Overview

In order to show where St. Eustatius fits into the merchant trading picture, we must examine its historical condition from geological and geographical standpoints. St. Eustatius is located in the northeastern arc of the Lesser Antilles—an ideal position for establishing a trading depot like none seen before or very likely since (Figure 17.1). Both prehistoric and colonial peoples used the proximity of islands in the Caribbean archipelago as stepping-stones for colonization and trade. People, ideas and products were easily transferred over great distances with relative ease. Trade winds carried these items from and to the rest of the Atlantic World—especially during the colonial period. St. Eustatius possesses a relatively low geological topography significantly reducing rainfall amounts. The small size of the island combined with its drier climate meant that it was relatively ignored by France and England as a plantation island.

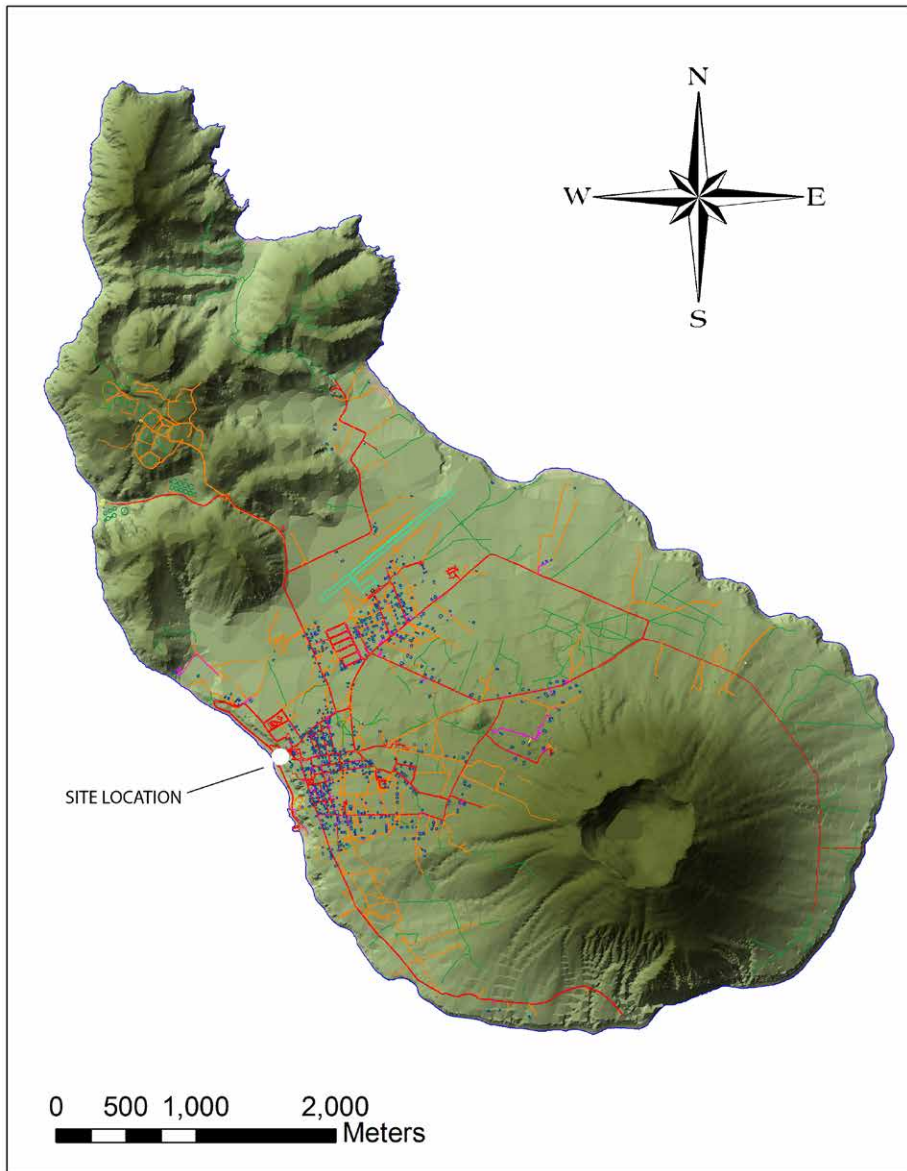


Figure 17.1: GWIC Warehouse location on St Eustatius, Dutch Caribbean. GWIC stands for *Geotroyeerde Westindische Compagnie* or *Chartered West India Company*.

When historical archaeologists first came to St. Eustatius in the 1960s they found a veritable cornucopia of very well preserved sites. Ivor Noël Hume was the first historical archaeologist to set foot on the island in 1966, and later related the uniqueness of St. Eustatius archaeologically and within the Atlantic World (1991; 2001). In 1982 Dethlefsen and Barka (Dethlefsen & Barka 1982) dubbed the island “The Pompeii of the New World” due to the incredible preservation of buildings and archaeological sites both above and below the sea. Thus, from the 1970s onwards, historical archaeologists have continuously worked on the island

with a permanent presence beginning in 2004 with the establishment of the St. Eustatius Center for Archaeological Research.

When Europeans arrived in the 1620s, there were no Indigenous peoples living on St. Eustatius. Theories vary as to why there were none with two prevailing schools of thought. The first is that there was an extended period of drought; the second is that there may have been a volcanic eruption of the island's volcano—The Quill—sometime around 1500. The central portion of Statia is relatively flat while the *Quill* volcano dominates the eastern end and the eroded remains of older volcanoes dominate the northwestern end. Members of the Saladoid culture who migrated up the Antillean Archipelago around 5-6,000 years ago first settled St. Eustatius (Versteeg & Schinkel 1992).

The French established the first European settlement on St. Eustatius when they built a wooden palisaded fort at the present location of Fort Oranje in 1627 (Gilmore & Roth 2013). Prior to this time privateers used the island as a supply station while raiding the Spanish treasure fleets and colonies. The first Dutch West India Company (*Geoctroyeerde Westindische Compagnie* or *GWIC*) established a fort overlooking Oranje Bay on the southern leeward shore in 1636 replacing the French occupants. Tobacco and cotton plantations were established initially in an attempt to develop yet another plantation economy. With the collapse of the tobacco market in the 1680s, the Dutch turned to their more commercial instincts and began building a trading entrepôt instead (Gilmore 2013a). By the early eighteenth century, along with Curaçao, St. Eustatius turned toward the slave trade. Slave ships brought their cargo to Statia to be auctioned to buyers from the surrounding islands. Fort Amsterdam, at Oranje Bay's northern end, hosted slave auctions and served to store slaves. Although slavers periodically came directly from Africa, the majority of slaves were part of the *Kleine Vart-* or inter-island trade (Klooster 1998).

Dutch merchants on St. Eustatius built a unique plantation community differing from those found on other islands during the seventeenth and eighteenth centuries. Merchants lived primarily in the "Upper Town" which overlooked the harbor formed by Oranje Bay and amongst the two hundred warehouses located there (Gilmore 2006a). The urban vs. rural contexts were reflected in social and economic roles assigned to each place that were unique to St. Eustatius. Documentary evidence suggests that plantations were viewed as "country estates" whose economic significance was secondary to the trade occurring along the shore (Gilmore 2006a). Plantations were important as expressions of social status and in the role they played in transforming sugar from a raw product into a more liquid commodity (rum). Sugar planters from other islands (especially Jamaica, St. Kitts and Nevis) utilized this as a means to contravene high taxes on their islands. In fact, in 1753 English sugar refiners complained to Parliament that sugar exports from Jamaica would not satisfy consumer demand, this was due to the illegal Jamaican trans-shipment of raw sugar to St. Eustatius where they could make higher profits by converting this sugar to white sugar. For example, in 1779, St. Eustatius plantations produced a grand total of 13,610 pounds of sugar but exported an incredible 25 million pounds (Goslinga 1985)! The economic role of the Lower Town for pan-Caribbean trade is quite clear from both documentary

and archaeological evidence. Trade grew even more after the American War of Independence reaching its apogee in the 1790s. Taxes under French and English occupation (1795-1816) and the severe decline of trade on the island after the 1820s (due to a substantial shift in commerce from the Caribbean to the United States) resulted in a massive reduction in population and general urban decay for the next one hundred fifty years (Gilmore 2006a).

Oranjestad

Over almost four centuries, Oranjestad on St. Eustatius has passed through several development phases. Outwardly, the island's economy was tied to trading in sugar, however it was more a combination of tax policy and the diverse array of commodities offered for sale that provided the most significant influences on urban development on Statia. During the colonial period these conditions resulted in the mixing of various cultures through commerce on the island that cannot be found at many other places in the region. Dutch, Spanish, French, English, Swedish, 'Italian', and Jewish (both Ashkenazi and Sephardic) merchants participating in commerce on a massive scale formed this community (Gilmore & Miller 2011; Miller 2008; Miller 2013). Eighteenth-century trade was so great that the island was known as the "Golden Rock" and became the busiest trading port in the world by the 1770s with thousands of ships landing and departing each year. Labour was provided primarily by enslaved Africans in the harbour, warehouses, plantations and they also frequently crewed canoes, boats and ships across the Caribbean in trading for their masters (and for themselves) (Gilmore 2006b). Areas associated with each of these sub-communities provide insights into economic and social relations in this intense business environment.

Above the Lower Town, the *Boven Dorp* or "Upper Town" of Oranjestad was developing further as well. Religious buildings, urban plantations, merchant's residences and military sites formed the urban core. The first Dutch Reformed Church was built on a hill overlooking the town in the 1630s, where the largest cemetery on the island is located today. The French destroyed the church in 1689 and a new one was consecrated close to the cliff edge just behind Fort Oranje by 1755 (Goslinga 1985; Menkman 1947; Knappert 1979).

Adjacent to the Old Dutch Reformed Church cemetery was the Jewish cemetery serving the considerable population of Ashkenazi and Sephardic Jews (Gilmore & Miller 2011). The Jewish synagogue, *Honen Dalim*, was built directly in the middle of Oranjestad, it was the centre of Jewish life on the island serving both Spanish and central European Jewish populations. A Jewish residential enclave grew around the synagogue throughout the eighteenth century. Jewish residents came to form an influential segment of the population and even became burghers—a political position granted based on economic and civic contributions to St. Eustatius society. Jewish merchants formed a very active core group supporting the American War of Independence through both overt and covert means. Consequently, Lord Admiral Rodney specifically targeted the Jews when he sacked the island in 1781 (Burke 1781).

It was along Oranje Bay's shores that the most significant changes occurred during this time. With the rapid expansion of the illicit trade in guns, gunpowder and naval stores provided to the French military and the American rebels dozens of new warehouses were constructed. In total, it is estimated that over 600 buildings including 200 warehouses once stood along this shore. When Rodney sacked St. Eustatius in 1781; the island had just suffered a devastating hurricane only four months earlier (*The Annual Register, or a View of the History, Politics, and Literature, for the Year 1781 1782*). When Rodney landed, the yearly rent on these warehouses totalled £1,200,000. Over £3,000,000 was realized from goods that were auctioned from the warehouses in what the 1781 Annual Register described as "one of the greatest auctions that ever was opened in the universe". In addition to this sum, over £4,000,000 in bullion was confiscated from island residents. All of these figures are in 18th-century terms. They represent the largest single booty taken in time of war by any nation during the 18th century (Lavoie, Fick, and Mayer 1995)..

As noted previously, the French came to control St. Eustatius in 1795. It was at this point that Stadia's trade began to decline. The French government policies regarding trade inhibited the free transactions that built the island's wealth. By the time Statia returned to permanent Dutch control in 1816, irreversible damage had already been done. Merchants first moved to nearby Swedish St. Barths and Danish St. Croix which had also established themselves as free trading ports (Klooster 1998; Lavoie, Fick, and Mayer 1995). Trade quickly moved away from the West Indies to North America and especially the United States (Gilmore 2013a; McCusker, History, and Va.) 1978). This decline is reflected in the auction records for the first twenty years of the nineteenth century (Gilmore 2006a). The size of Oranjestad quickly decreased along with the population. By the 1830s, the warehouses along Oranje Bay were in ruins except for the scale house and the pier (Teenstra 1836). With emancipation in 1863, freed slaves were left to eke out a meager existence from the arid soil by growing cotton, yams, sweet potatoes and animal husbandry (Gilmore 2013b). People of European descent had largely abandoned the island by the 1890s. St. Eustatius remained in this condition until the 1980s (Bor 1981).

It is difficult to conceive today of the place that St. Eustatius once held in the world's trade economy. With our Euro- and Ameri-centric viewpoints, the West Indies no longer seems very important. However, during the eighteenth century the opposite was the case. Called variously the "Golden Rock", "Diamond Rock" and the "New Tyre", St. Eustatius (or Statia) could supply almost any product manufactured in the Old or New World. On St. Eustatius millions of products were bought and sold each year in auctions held in the more than 200 warehouses built along Oranje Bay. During the last half of the eighteenth century, up to 7100 ships passed through Statia each year (Morgan 1993). In comparison, other ports processed far fewer ships during the same time period (Table 17.1). One must keep in mind that Statia was an island only 21 km². If transients (sailors, prostitutes, etc.) are included, the population (about 20-25,000) was equal to that of New York City in the latter eighteenth century (Fenning and Collyer 1976; Gilmore 2004:54; *The Annual Register, or a View of the History, Politics, and Literature, for the Year 1781 1782*)!

Country/Colony	Port	Year	Entering	Clearing	Total ^a
Britain	Bristol ^a	1768	178	-	356*
	London ^b	1777	627	342	969
British N. America	New York ^c	1772	710	709	1419
	Providence/ Newport ^d	1773	-	-	1661
	Philadelphia ^e	1797	1420		2840
France	Bordeaux ^f	1786	-	281	562 [†]
	Nantes ^g	1704	-	151	302 [†]
	Marseilles ^h	1787	-	146	292 [†]
Jamaica	Kingston ⁱ	1764			364
Barbados	Bridgetown ^j	1730			843
St. Eustatius	Oranjestad ^k	1777	2315	2460	4785
	Oranjestad ^l	1779	3551	-	7102

^aTotal is estimated for the ports with a * based on Entering ships while those with a † have totals based on ships Clearing. Sources for data are ^a) (Whitworth 1777:whit) ^b) London (Matson 1998) ^c) (Withey 1984) ^d) (Mease 1811) ^e) Philadelphia (Clark 1981) ^f) ^g) and ^h) (Walton 1968) ⁱ) and ^j) (Schulte Nordholt 1982:37) ^k) (Menkman 1932:372) ^l) (Gilmore 2006a).

Table 17.1: Relative shipping activity in European and Colonial ports.

There were three primary reasons for the success of St. Eustatius as a centre for trade. First, the island has an ideally situated harbour on the leeward side and its low lying geological conditions significantly reduced rainfall. Taken together these restricted the quantity and quality of agricultural products that could be produced on the island. Left with no natural agricultural promise, *trade was the only economically viable option for residents*. The second reason for Statian success was its ideal location on the busy sea-lanes centrally placed between the northwestern Caribbean islands and those of the southwest (Figure 17.1). The location as also favourable for taking advantage of wind conditions to trade and transship throughout the Caribbean and the greater Americas. Third, and most importantly, the Dutch West India Company made Statia into a free port in 1754 (Goslinga 1985; Heijer 1994). Thus, as with today's online auctions, the trade occurring on the island was relatively uninhibited by governmental interaction and commenced at a breakneck pace. Trade in contraband sugar was rampant; the capital value of Statia's trade was incredible (perhaps £100 million in 1781) (Gilmore & Roth 2013; Smith 1776:456). In addition to re-exporting other nation's raw sugar, most St. Eustatius plantations were also processing this raw sugar and molasses into rum and refined sugar to be sold tax-free. Sugar and rum sales were both local and international.

Thus, the aforementioned three factors combined to make the Golden Rock a corner post in the Atlantic trade and an essential connection for the American colonies to a Dutch global trade network. Dutch East India Company (*Vereenigde Oost-Indische Compagnie*, VOC) ships would ship items from Asia and the Indian subcontinent to Europe and these would then be trans-shipped via Statia to American destinations.

The Dutch overseas colonies were inextricably tied to the banking systems in Europe. The colony became the source for the capital that many banks used for loans to other merchants, industrialists and other investors throughout the colonial world. Other than the work of Adam Smith, previous examinations of banking and capitalism have virtually ignored the place that the West Indies and in particular St. Eustatius, had in the development of Free Trade and Capitalism itself. Free trade did not start with the English free ports act of 1766. Instead it began through a free trade agreement granted by the Dutch West Indies Company in 1754 (Karras 2003). Other ports were places where “free trade” was commonplace such as Monti Christi on Hispaniola or New Amsterdam but the law did not officially sanction these and instead the government merely overlooked violations (Gardner 1988). This history is reflected in the archaeological and architecture of the building described in this chapter.

Lowertown and Building Historical Documentation

Travel reports, drawings, pictures and archival material can all provide insights into and can help in reconstructing St. Eustatius’ incredible trading history. The following section provides a limited selection of such sources regarding the commercial heart of the island.

- Attema (1988) states that in 1760 Commander De Windt informed the Heren X about English piracy:

*... ‘Andere welke met swaare kosten en groote industrie uit de zee land hebbe annegewonnen om daar pachuijsen op te bouwen ter bevordering en faciliteering van de commercie bevinde sigh nu, door stremming van dien, ontbloedt van hare capitaale daar aan te kosten gelegt’...*¹⁷

... ‘Others who won land from the sea with a great deal of expense and hard work, and built warehouses there to increase commerce, are now losing their capital, since trade is being obstructed’...

- A 1775 travel report written by the Scottish Lady Janet Schaw describes the Lower Town thus:

‘It is however an instance of Dutch industry little inferior to their dykes; as the one half of the town is gained off the Sea, which is fenced out by Barracadoes, and the other dug out of an immense mountain of sand and rock; which rises to a great height behind the houses, and will one day bury them under it’... ‘The town consists of a two mile long road, but very narrow and most disagreeable, as every one smokes tobacco’... ‘From the one end of the town of Eustatia to the other is a continued mart, where goods of the most different qualities are displayed before the shopdoors. Here hang rich embroideries, painted silks, flowered Muslins, with all the manufactures of the Indies. Just by hang Sailor’s Jackets, trousers, shoes, hats etc. Next stall contains most exquisite silver plate; the most beautiful indeed I ever saw, and close by these iron-pots, kettles and shovels.’ (Schaw et al. 1923)

Both sources talk about ‘half the town being gained off the Sea’. Warehouse ruins that are now snorkelling sites attest to a combination of sea level rise and the erosion of land taken from the ocean by seawalls and fill. Several estate inventories provide information on what life was like in Lower Town. Occasionally, they offer a description of property types and layout and the interior organization of the bay houses. Lower Town did not only consist of warehouses as industrial activities and domestic structures were also present. A 1786 inventory for William Hill’s estate is one example:

‘Een huijs en erf’... ‘Bestaande in Een voorhuijs/ naast het zelve Twee Bedkamer/, daar agter Een Gallerij en naast dezelve Twee Klijndere Kamers/ Onder het huijs Een Kelder en Twee vertrekken/ Naast of agter dit huijs nog een Huijs twelk voorzien is van Een Gallerij daar wijtgaande in Een Hall of Voorkamer en naast dezelve Twee Bedkamers. Onder dit Huijs Een Keuken en Drie Neeger Vertrekken/ In de Yard is Een Huijs voorzien van Een Voorhuijs Een Bedkamer Een Klijne ditto Een Gallerij Een Kelder en nog apart Een klijn Huijsje of Kamertje/ Voorts is op de plaats Een Paarde Stal Een Smits Winkel Een plaats om Schildpadden te bewaaren Een Duijve hok met een bergplaats eronder Een Reegebak Een secreet.’
(Du Sart 1786)

‘A house and property’... ‘Consisting of a Front room/ besides which Two Bedrooms/ behind which a Gallery besides which Two Smaller Rooms/ Underneath the House Cellar and Two Spaces/ Next to or behind this house another House provided with a Gallery besides which a Hallway or Front room and besides which two bedrooms/ Underneath this House A Kitchen and Three Negro Quarters/ In the Yard there is A House provided with A Front room A Bedroom A Small Bedroom A Gallery A Cellar and a separate Small House or Room/ Additionally on the place A Horse Stable A Smiths Shop A place to keep Turtles A Dove Coat with storage space underneath A Goat trough A toilet.’

The above sources show that Lower Town was a densely urbanised area that was probably similar to contemporary 18th-century urban landscapes in Europe.

- In 1743 Commander Heyliger complains about the condition of the old weigh house, which was located at the foot of the bay path:

... ‘De houtwerk vergaen, de murragien vervallen, alsmeede de waegh’...

... ‘The wood-work is rotten, the walls crumbling and so is the weighing house’...

- Later, in 1771, Johannes de Graaff informed the Heren that a new Weighing House needed to be built which the company should pay for:

... ‘Weegens de naauw bepaalde groote, onvoordeelige situatie en bouwvalligheyd van het teegenwoordige waaghuis’...

... ‘Because of the small size, unfortunate situation and poor state of the present weighing- house’...

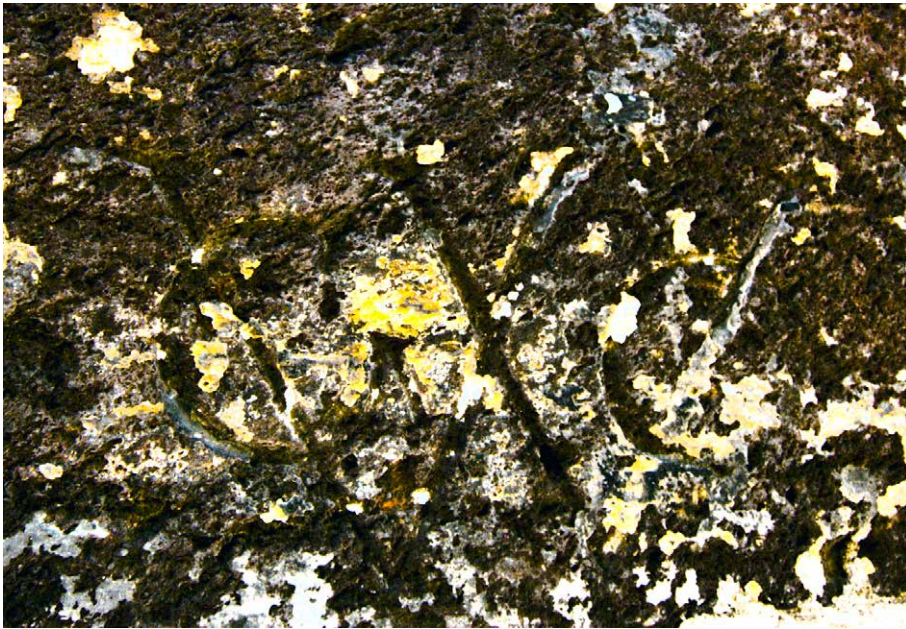


Figure 17.2: While renovating the former Waag or Weighing House in 2011, builders revealed this inscribed cartouche. The letters are GWIC or Geoctroyeerde Westindische Compagnie. Its architecture and proximity to the study site strongly suggests a historical and material relationship. Goods would have been weighed at this structure in order to be taxed before 1754.

This new weighing house was built on the opposite side, the seaside, of the road near the bay path. The plot where the old weigh house had stood was kept clear. The diveshop 'Dive Statia' now occupies this building. It is to the north of the study site across a public path. A cartouche with the initials GWIC was discovered when renovating this structure in 2011 (Figure 17.2).

- After about 1815 many inhabitants of Lower Town chose to go and live in Upper Town due to the severe decline in Statia's trade. The bay was abandoned, and the deterioration of the once wealthy harbour area commenced. This decline is visible in a number of artistic images. Whereas a watercolour painting by A. Nelson presents 1774 Lower Town as a very crowded and lively area (Figure 17.3), a detailed watercolour of the district dating to 1829 and signed G.C. illustrates the advanced state of decay by this early date (Figure 17.4). Both artworks depict structures with hipped and gabled roofs, and high set windows where the current building is located. Some nearby structures have overhanging second stories.



Figure 17.3: Two views were painted by A. Nelson in 1774. They are the most accurate depictions of Oranjestad's Lower Town from the 18th Century. The study site is clearly visible.

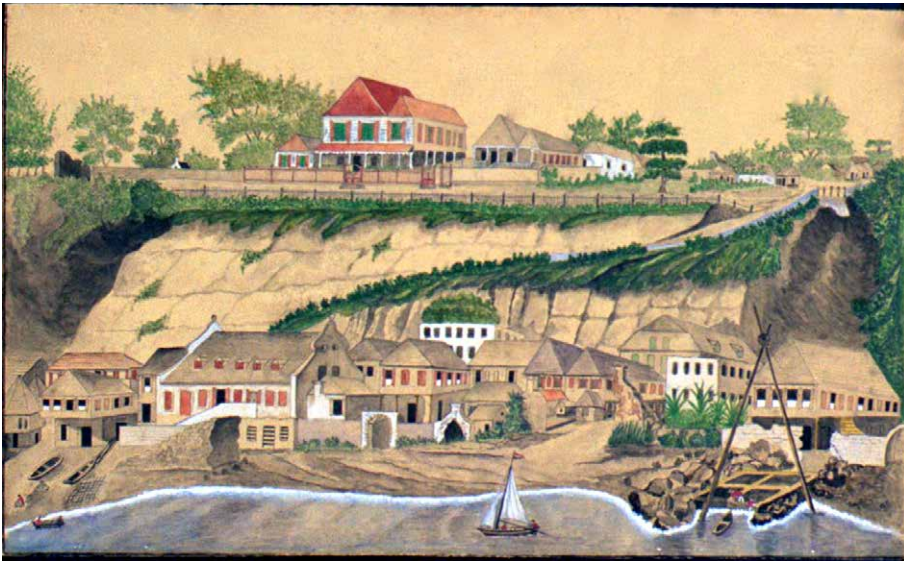


Figure 17.4: A watercolour painted around 1829 shows the dilapidated state of the Lower Town just fifty years later. SE 343 is at the centre of the image.

Archaeological and Architectural Research Aims

In order to guide the restoration programme a series of research aims were compiled. Archaeological and architectural objectives were identified that would assist public interpretation of the building's history as well.

1. What construction phases can be identified? Has the structure been in use continuously or are there clear breaks in its occupation history?
2. Are there architectural/archaeological features providing insights into the building's past use?
3. Do the depth of the foundations help in determining the structure's original height?
4. What is the composition of the underlying soil stratification? Has the soil been in-filled on one or more occasions?
5. Are there obvious alterations made to the building over time? Are there modern renovations visible?
6. Is it possible to date the current standing walls by analysing the brickwork/mortar?
7. What physical deterioration to the building can be identified?
8. Are the three rooms to be considered contemporary?
9. Does archaeological evidence assist in distinguishing phases in the building's history?

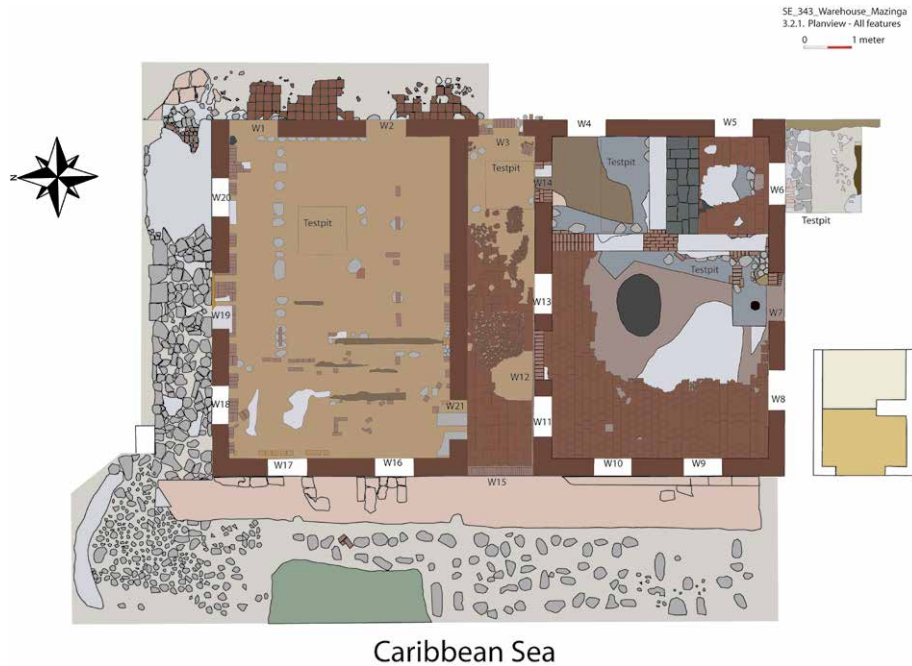


Figure 17.5: A plan view of SE 343.

Project Research Methods

The research methods addressed both architectural and archaeological components. The standing structure was drawn in its found state, using the *Historic American Buildings Survey* (HABS) standards (United States *et al.* 1990). The building's archaeological history was investigated by excavating test-pits strategically placed throughout the building's interior and exterior.

In order to provide a standardized method to document historical structures, the United States National Park Service has developed the Historic American Building Survey (HABS)/Historic American Engineering Record (HAER) Standards. The HABS standards provide a globally recognised standard for documenting historic buildings, sites, structures and objects. This documentation, often includes drawings, photographs and written data provides important information on a property's significance for use by scholars, researchers, preservationists, architects, engineers and others interested in preserving and understanding historic properties. Documentation assists in accurate repair or reconstruction of historic properties (or portions thereof) that may be damaged or demolished.

The standards used are intended for use in developing documentation to be included in the Historic American Building Survey and the Historic American Engineering Record collections in the Library of Congress. HABS/HAER in the National Park Service have defined specific requirements for meeting these standards for their collections (United States *et al.* 1990). Photographs, drawings and notes were used to record the in situ state of SE 343 before it was modified during the restoration process (Figure 17.5).

Archaeological Results

Prior to the archaeological survey execution on the structure's interior a modern concrete slab (Feature S1) was manually removed. Prior to the excavations beginning on the building's exterior landscape, the topsoil layer (Feature S1000) was removed mechanically, using a small backhoe. All features and contexts were listed and can be found in the original site report (Gilmore 2008).

Zone I and Southern Exterior

After the removal of the modern concrete slab (Feature S1) in Zone I, numerous features were revealed, providing insights into the building's history. Two test pits were excavated in this zone (Test Pit 1 and Test Pit 5).

Zone I was divided into three sections. Features S8, S9 and S27 are footers for an interior wall that used to divide the zone into an eastern and a western area. Directly underneath the concrete slab, the floor level of the widest, western area consisted of worn earthenware tile floor (Feature S14). The tile floor was no present in the centre of this area (it is likely that the missing tiles were reused elsewhere in or around the building). The floor had a mortar substrate (Feature S16 and S18). Underneath this mortar layer, a hard brown clay layer (Feature S15 and S17) was uncovered. The clay layer was cut by an ash concentration in the middle of the room (Feature S40). The northwestern doorway threshold (Feature W12) connecting Zone I to Zone II consisted of tile flooring (Feature S14) and a brick step (Feature S45). The doorway (Feature W7) connecting Zone I to the southern exterior of the building included a threshold made from brick (Feature S44). Test Pit 5 was excavated against the border of the original western room, west to the foundation dividing the area into two and along the southern interior wall.

During the excavation of test pit 5, a part of the mortar for the tile floor (Feature S13) was found. Underneath this layer was a local volcanic stone footer (Feature S11), forming the base for the interior and southern wall. Underneath this foundation S12, some *ex situ* irregular bricks were found. Noteworthy features in Test Pit 5 are numbers S48 and S47. S48 is a brick floor, which was found beneath the footer level of the existing structure. S 47 is a posthole, which was found at a level between S48 and S11. Both features indicate the existence of an earlier structure on the research site. At a lower level the excavated layers become natural (Feature S2030 and 2070). S2030 is a sterile sand layer in which the fragmentary remains of two large turtles were found.

To the east of features S8, S9 and S27, a narrow space was divided into two smaller rooms. A natural stone hearth (Feature S7) and a mortar and brick wall (Feature S19) are part of the feature dividing the area into two. The original southeastern room had an earthenware tile floor (Feature S2). At some point a small fire pit was excavated through the tiles into the underlying soil layers in the centre of this room (features S3, S4, S5, S6).

The northeastern room had been stripped from its original concrete floor and consisted of several relatively young fill-layers on top of the *in situ* archaeology. A second test pit (Test Pit 1) was excavated at this location down to the subsoil. A crumbly mortar layer (Feature S21) indicated that a tile floor was once laid in this

room. Features S20, S23 and S26 are part of a natural stone footer, supporting the interior walls. Feature W14, the doorway connecting this narrow space of Zone I to Zone II consisted of a brick threshold (features S28 and S30), underlain by a mortar layer (feature S29).

Test Pit 1 was excavated stratigraphically, revealing numerous fill layers. There was no evidence for an earlier structure at this location on the site.

After topsoil removal around the building exterior, a test pit (Isaac's Pit after a SECAR volunteer) was excavated on the southeast exterior of the building. The remaining southern part of the exterior was stripped and cleared, exposing a small structure (Kelly's Kitchen after another SECAR volunteer) to the southwest of the 'Mazinga Warehouse'.

The most important feature exposed during the excavation of Isaac's Pit was an approximately 50 cm wide and 75 cm deep well built footer for the building's south wall. The footer was exposed but not excavated along the entire length of this wall. The footer was built directly on the sterile beach sand subsoil. It is likely that this footer is continuous around the exterior walls of the entire structure.

Another feature exposed during this work was a foundation-wall on the south side of Isaac's Pit. This feature indicates that another structure once stood to the south of the main building. Artefacts recovered around this structure were not temporally diagnostic enough to determine whether both structures were contemporaneous. A more recent compacted walking surface was found at a higher elevation than either foundation wall. The building to the south of the Mazinga Warehouse collapsed relatively recently. Artefacts dating to the mid-twentieth century were identified within the wall collapse rubble (beer bottles etc.).

To the southwest of the main building, "Kelly's Kitchen" was uncovered. "Kelly's Kitchen" is a small structure measuring 350 cm by 285 cm. Two ash fills were excavated on the interior of the structure, indicating that the structure had a practical function, presumably that of a kitchen. The structure is probably contemporaneous with the main building. It is also clearly visible in each version of an 1829 watercolour painting of this area of Oranje Bay.

Zone II and III

During Zone II excavations--the hallway connecting Zone I to zone III--an earthenware tile floor was revealed (Feature S31). The floor was heavily fragmented and seems to have been crushed towards the centre and the east of the hallway (Feature S37). The floor may have been crushed as a result of the concrete and rubble installed on top of this flooring sometime in the 1950s. The doorway towards the west (Feature W15) consisted of a brick doorsill (Feature S39). The threshold of the eastern door was also fragmented, however a few brick fragments (Features S38, S46) uncovered in this area indicate that the eastern entrance was similar the western one. The tile floor was laid directly on top of a brown-grey silty-clay layer (Feature S33). Several footer stones were uncovered (Features S36 and S32), indicating the presence of a natural stone footer supporting the central

interior walls of the structure. The doorway excavation connecting Zone II to Zone III exposed two large footers (Features S67 and S69) indicating that this vaulted passageway was solidly built, perhaps for the transport of heavy goods.

A test pit was excavated in the eastern part of Zone II (Test Pit 2). This excavation revealed the presence of an older mortar and brick floor level (Context 38) underneath Feature S33.

Zone III excavations revealed evidence that a wooden floor was once installed in this area. Original wooden flooring (likely *Lignum vitae* or “ironwood”) were excavated here below the concrete and rubble (Features S58, S54, S74, S59 and S80). Wooden planks nailed upon floor joists were oriented roughly east to west. Against the northern and southern wall several floor joist holes were excavated at regular intervals (Features S63 and S64). The brickwork forming these niches was not integral with these walls. This indicates that the wooden floor was likely installed at some point after the building was constructed. Several rows of footers provided additional support for the wooden floor. Feature S51 is an east-west oriented row of natural stones in the northern part of Zone III. Feature S61 provided a similar function but consisted of a single row of bricks (Feature S61) on top of the natural stones in order to provide a level support for the wooden floor. Another similar foundation row (Feature S89) was revealed in the southern area of Zone III. It is probable that features S52, S53, and possibly S56 were also originally part of the support system for the wooden floor. Feature S53 (a natural stone footer) cuts into an earthenware tile (Feature S49), indicating that the wooden floor likely replaced a tile floor that once matched that in Zone I. The wooden joists were laid upon north-south oriented foundation joist holes. The clearest examples include Features S72, S73, S74, S75 and S76. The scattered bricks around S80 form a second good example. Two mortar concentrations (Features S70 and S71) directly underneath the wood, but above the natural stone footers indicate that a mortar slab completed the foundation for the wooden floor.

Features S50 and S62, include a row of natural stones to the east of Zone III that are part of the interior footer supporting the structure’s interior walls. Underneath these, a sand and silt layer was excavated (Feature S2080) spreading out across the entire area including Zone II as well (Feature S33).

A test pit was excavated in the centre of Zone III (Test Pit 3), in which a hard packed layer (Context 22) was found underneath Feature S2080. A sterile sandy beach was revealed in this layer.

Eastern Exterior

The eastern exterior of the structure consists the remains of an earthenware tile floor laid on top of a lime mortar base (Feature S82). It is possible that the tiles used for this exterior flooring were originally located on the inside of the building in Zone I. The surface area of these exterior tiles and the surface area of the missing tiles from Zone I are just about equal. Towards the north, a Bermuda limestone block path was excavated (Feature S84), while towards the east, a brick patch

(Feature S85) and natural stone blocks (Feature S86) were revealed. A concrete slab was poured over this path relatively recently (Feature S84). Feature S88 is a modern disturbance in this area.

Towards the west of the building (facing Oranje Bay), a path was built from Bermuda limestone blocks (Feature S83). A number of irregularly placed large natural stones (Feature S86) were found underneath the beach sand between Feature S83 and the ocean. These stones were mortared together are likely the remains of a seawall built to protect the building against the ocean. Feature S87 is a modern disturbance.

Architectural Results (Louis Nelson)

While the two major components of the building might imply two distinct building periods it was clear upon close inspection that the building footprint as we now see it is a single building period. The best and near conclusive evidence to this effect is the consistency of the building's English bond masonry: alternating courses of stretchers and headers. The high-quality brickwork is unbroken and consistent around the entirety of the building. Fenestration heights are also consistent throughout. Although the present roof system initially suggested that the warehouse was originally two separate buildings connected by a later arch, the brick barrel vault springs directly from the hallway walls, and is unquestionably integral to the first period of construction. The entire building as we see it today is a single building period.

The north wall of Zone III is the original formal façade of the building with a wide central door flanked by two windows, all with arched reveals above. Two of these three arches were filled with yellow brick, which might have been intended as a contrasting decorative element or, more likely, is later masonry intended to infill the once open arches. Upon removal of the modern cement on the interior walls it became clear that this infill was a decorative element that did not pierce the entire width of the north wall. These arched windows appear on this elevation only. Closer inspection of the west wall of Zone III indicates that the two centrally located windows appear to be original to the first period of construction. The east wall of Zone III has a wide door opening at its northern-most edge and another narrower door further south. The northern door of the east elevation is the same width as the central door on the north elevation. The northern door was assumed at first to be a later opening, but the survival of a square lintel brick immediately under the left end of the lintel in a manner typical of the other openings suggests that it is in fact first period. The southern wall of Zone III is unbroken save a single door opening to the far west end of the wall.

Running through the room interior is an archaeologically uncovered foundation wall that runs east-west about five feet south of the northern wall, but only along the two easternmost bays of the northern elevation. That foundation wall was most likely an intermediary support for the joists that originally spanned north south from joist pockets in the northern foundation wall. The joist pockets and one surviving joist suggest that these joists were fairly large, measuring approximately

5 inches by 6 inches (12.7cm by 15.2cm). But the fact that the wall does not run the entire width of the room throws this interpretation into question.

The roofing currently sheltering Zone III is old and very complex. It is a principal rafter roof framing system secured by pegged mortise and tenon joints. The principal rafters are substantial in size and are nicely beaded. The hip rafters to the west have a substantial collar beam and rest on a large chord that spans from north to south. There are also two first period diagonal braces that span from the rafters to the chord at either end. There is now a replacement vertical member that rises from the very centre of the chord to the collar beam. Peg holes and a substantial mortise indicates that this member replaces a much larger vertical post that once stood in this position. Empty mortises immediately below the collar beam on both rafters are evidence for two more diagonal braces that spanned from the rafters to the shoulders of this now missing central post. There are two later vertical posts that are lapped over these members and are secured by nails. The rafters at the eastern hip reflect essentially the same system as the west but with even more replacement parts. Between these hip rafter pairs there are five pairs of rafters, three sets of common rafters and two more sets of principals. These two principals lack the chords of the pairs of end rafters but have all the other markings of the end rafters, suggesting that they too were once more complex in form than they now appear. All of these rafter sets are irregularly positioned.

The space referred to as Zone II is a long central hall that stands between the two larger zones of the warehouse. It is roofed by a brick barrel vault. While brief returns now create door openings, both ends of the cross-passage were originally open with no physical evidence of a gate or door. Current doorways at either end of the passage are clearly infill dating to a later period. No evidence can be found of sockets for a gate on either end. Only the door into the office chamber of Zone III breaks the northern wall of the passage. Along the south wall the passage contains a door to a smaller eastern chamber of Zone I and two large windows flanking a door into the larger western chamber of Zone I.

Physical evidence for a prominent masonry cross-wall divides Zone I into two major sections: a larger open chamber to the west and two smaller equally sized chambers at the east side. A wide horizontal scar on the centre of the eastern wall suggests that back-to-back fireplaces separated the two eastern chambers. The centre of the scar is an approximately 1' wide jagged band of brick that runs 5' up from the floor. On either side of this central scar the springing point of a brick oven hood is clearly evident. At the far side of each of these arch springs is a pocket for a girt that presumably extended perpendicular from the east wall to the internal dividing wall, serving as the front edge of a fireplace hood that spanned the width of each small chamber. This scar indicates that a half-height brick wall divided this chamber into two equal spaces, served as the rear of each oven, and carried the hoods on either side that would exhaust through the roof. The surviving stone hearth in one chamber provides irrefutable evidence to this reading. This arrangement of oven spaces that share a partial brick wall and vent into a shared flue is similar to early modern Dutch two-chamber house plans. Each of the two spaces had a window through the eastern elevation and a door on the northern or southern ends of the rooms respectively. There is no evidence

to suggest that these did or did not have access to the larger western chamber. Each of the two chambers has a window, a door, and circular ventilation flue. In the southeastern chamber the door and window have since been switched. The east wall had a window and the south wall had a door. In its original state, both chambers had windows overlooking the street.

The western chamber has a door and window along the south wall, two windows along the western seaside wall, and a door symmetrically flanked by two windows along the Zone II passageway entrance, suggesting that this is the primary, public entrance into this chamber. The exterior face of the southern door has a shallow, segmental arch. The space was originally tiled, some substantial portion of which survives. No early roof remains over the Zone I. Its existing hipped roof dates to the late 1970s.

Discussion of Chronology

The physical evidence of the building suggests that it is certainly an eighteenth-century building and very possibly an early eighteenth-century building. The best evidence to this effect is the building's masonry. English bond is the predominant bonding pattern through the seventeenth century and early eighteenth century. In highly fashionable quarters, it is supplanted by Flemish bond in the second quarter of the eighteenth century, but buildings often retained English bonding in their water tables or in their secondary elevations through the third quarter of the eighteenth century. Inspection of a number of brick buildings elsewhere in town suggests that although Flemish bond is clearly introduced in the eighteenth century, English bond masonry persists as a preferred brick bond in Statia later than expected. The English bond masonry of the 1739 Synagogue on Statia—a major public building—is an excellent case in point. It is worth noting that the adjacent building that currently serves Dive Statia is a yellow brick English bond building with stone quoins now thought to be the 1772 Customs House. This is evidence of the use of English bond through the third quarter of the eighteenth century. The simple use of English bond masonry, then, suggests that the building is certainly not nineteenth century and very likely predates the 1780s, when the use of English bond—even on a warehouse on Statia—would have been noticeably outdated. The shallow segmental arch over the door on the southern elevation and the two ends of the barrel vault that defines Zone II are also masonry details indicative of earlier eighteenth-century masonry detailing. Later eighteenth-century arches tend to be more closely semi-circular—a half-circle—rather than shallow and only a segment of a circle. The masonry suggests that this building likely dates from the first half of the eighteenth century.

Careful analysis of pictorial evidence of Statia's warehouse district from the eighteenth through the twentieth century suggests that this warehouse is the prominent Dutch-gabled building that appears in a number of early views of the lower town. The 1774 painting of Oranjestad from the cliff to the north of town captures a spatial relationship between the new Customs house and the Dutch-gabled building that from that same point is fairly closely replicated by the relationship of the warehouse under consideration and the building now occupied by Dive Statia.

An early nineteenth-century view of the warehouse district from the water shows the same Dutch-gabled building in close proximity to an arched opening just to the south of the building. That arched opening is now damaged but still evident on the property just to the south of the warehouse under investigation. The proximity of the warehouse under investigation to these two physical landmarks in early views provides near conclusive evidence that the warehouse under investigation is in fact the very prominent Dutch-gabled warehouse that appears in early views of Oranjestad.

There are a number of physical features on the building that further reinforce this interpretation. The first is the orientation of the building. The primary elevation of the building faces the north, not the east or west as might be first assumed if the building faced either the water or the road. This orientation is a first a bit surprising, because it seems to ignore the road. But upon consideration it seems quite obvious that the prominent gabled end of the building addressed a cross-axis access to a major wharf that ran between the Customs house and this warehouse. The second is the building's English bond masonry, which clearly suggests that this building dates from the eighteenth century.

If it dates from so early a period, it must appear in these early images of the warehouse district of Oranjestad and there simply is not another building of this scale and this orientation in those images that could be the warehouse under consideration except the large Dutch-gabled building.

The evidence to the contrary includes the waterfront image's suggestion of many more window openings on the building than is evident on the walls as they stand today. Remarkably, all the original window and door openings remain with very little alteration, suggesting that the building under consideration could never have had the fenestration suggested by the painting. Even so, we feel that the physical evidence is so convincing that this aberration must be written off to artistic license.

The physical evidence offers some compelling information about the organization of the building in its early configuration. The extreme positioning of the northern door on the east wall of Zone III, together with an archaeologically uncovered foundation wall which might have supported a timber frame partition suggest that the wide door on the northern elevation opened into a lateral passage that exited the building through the large door at the extreme northern end of the eastern wall. The cross-wall creating this passage could not have run the full width of the building as it would have terminated into a window opening on the western wall. This suggests that the western end of Zone III was a single chamber that ran the full north-south depth, creating two chambers and a cross-passage in Zone III. The southeastern chamber was fairly dark with no windows on its southern wall—that shared with the barrel-vaulted cross-passage identified as zone II—and only a single door to the west. The small exterior door and the lack of windows imply that it served primarily as storage. The chamber at the western end of Zone III, conversely, was well lighted with access from the internal cross-passage at the northern edge of Zone III and the cross-passage identified in this report as Zone II. This implies that it served as an office or shop with abundant light and easy access to the spaces of Zones I, II, and III. A series of joist pockets, some archaeologically

uncovered joists, and an abundance of nails indicates that Zone III was floored in wood plank.

Careful examination of the roofing system in Zone III suggests that it is an eighteenth-century roof from another building that has been retrofitted to this space. While the structure of the roof and its component parts are clearly of eighteenth-century date, their extensive reworking with newer components and the irregularities of its installation, especially the spacing of the trusses, suggests that it was not originally installed over this space.

The vaulted central passage identified as Zone II seems not to have changed much from its original configuration. The office in Zone III had a door into the passage reaffirming that space's importance as a place of access and management. The southern wall of the passage has two doors, each giving access directly into the two major sections of Zone I. The door to the west is flanked by two large windows in a shop-like configuration indicating that the passage was probably open to regular public traffic and not a private, secured circulation route for a small community of people. Its is also well-tiled, implying that it was not a residual space, but a prominent space.

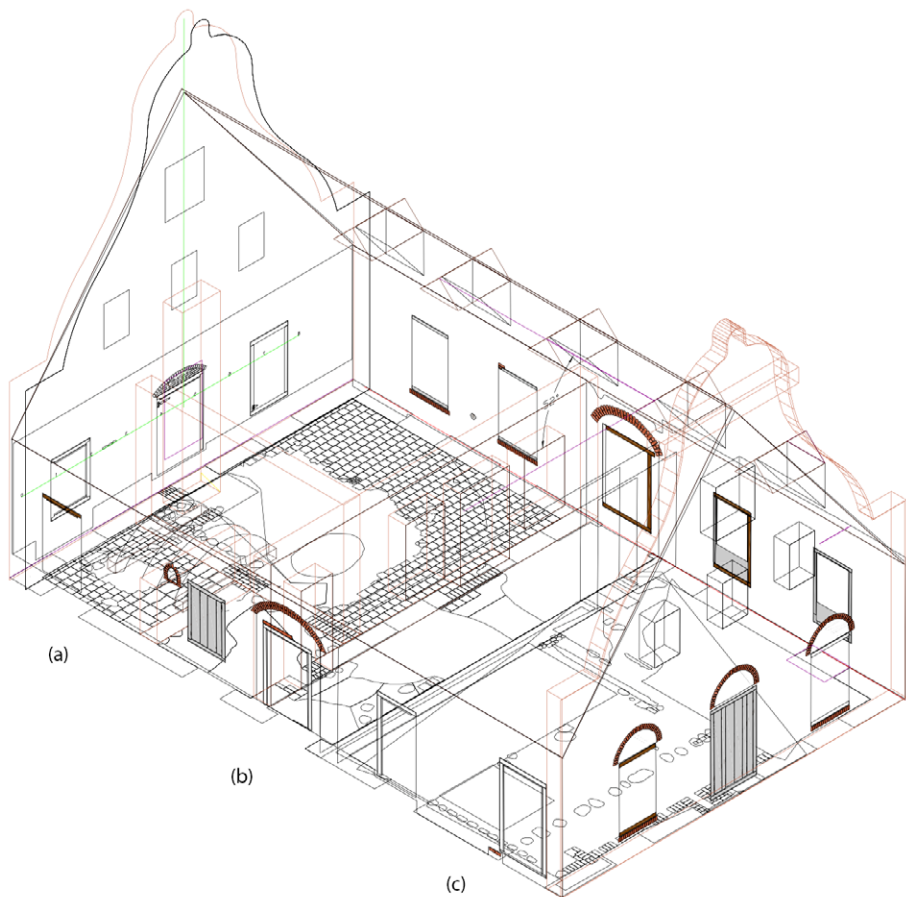


Figure 17.6: 3D conjectural rendering of the Dutch West Indies Company Warehouse (SE 343).

Zone I has the most complex architectural information. The prominent masonry cross-wall clearly divides the space into two zones. The larger western chamber was very well illuminated and boasted fairly open circulation. It seems likely that this space was used either as a commercial space or for light manufacturing. The chamber to the east of the cross-wall was subdivided into two chambers by an intermediary half-wall that provided a skeleton for back to back fireplaces, each opening into a small chamber. Each chamber had an external door to the north (into the cross-passage) or to the south. Each chamber also had windows to the east overlooking the road. Physical evidence indicates quite clearly that the window and the door in the southernmost of these two chambers have been swapped. The circular vent flue in each chamber suggests the likelihood that each contained its own small forge and bellows vented through that hole supporting the possibility that this side of the building was used for light manufacturing (Figure 17.6).

Research Conclusions and the Future of CRM on St Eustatius

The evolution of many Caribbean colonial social, physical and fiscal landscapes was inexorably tied to the economic cycles associated with agricultural production. Plantation monoculture provided the wealth, both urban and rural, through which all levels of society were able to fund landscape modifications. On St Eustatius, although there were many plantations, they contributed little to the economic position of the island's inhabitants.

Instead, the largest trading network in the world was centred on St Eustatius in the latter quarter of the eighteenth century. Each level of society from the ultra-wealthy merchant planters to the enslaved was affected. The result was a social order set apart from all others in the colonial Caribbean. Merchant planters built a communal system designed to maximize profits through personal contacts reinforced by family, political, religious and social structures centred on entertainment and ostentatious displays of wealth. At the other end of the spectrum, although the enslaved and free blacks were kept at the physical periphery of Oranjestad (the island's only town), they were intimately involved in keeping the trading activities there running smoothly for their owners while at the same time improving their own physical conditions (Gilmore 2006b; Gilmore 2010).

The success of this trading network led to a relatively large and cosmopolitan population resulting in the densest concentration of historical archaeology sites in the Americas with the most diverse material culture. Architectural technology combines English, French and Dutch methods sometimes within the same structure (Nelson & Gilmore 2005). Archaeological assemblages at any given site reflect the global reach of St Eustatius merchants. However, the architectural components of site SE 343 are the most Dutch of any structure outside of Willemstad on Curaçao.

Although the two major components of the building (Zone I and III) might imply two distinct building periods it is clear that the building footprint and the consistency of the building's English bond masonry point to a single building period. The architectural and archaeological research could not provide conclusive evidence about whether the structure has been in continuous use since its construction sometime in the 1730's. However several distinct phases could be

identified through the archaeological record. There are some periods, which do not have any archaeological evidence (e.g. late 19th century). There is however documentary evidence providing information for these periods. Recent ownership documents go back as far as 1887 (*cf.* Kadastrale gegevens, St. Eustatius). Prior to its current incarnation as a gift shop and domestic residence, the building served as a dive shop during the 1980s.

The precise historical use of the building has not been established. However, there are several architectural and archaeological features providing some guidance regarding the building's former function. The archaeological research in Zone III has indicated that a wooden floor once covered the ground level. Other excavated structures along Oranje Bay had clay, stone, wood or brick flooring. In this building, however, we see red earthenware tile floors in each zone. Therefore, the use of earthenware tiles was a rare luxury in a non-domestic structure. In Zone I and II, the tile floor is the most recent of the historical alterations. In Zone I, the tile floor was preceded by a brick floor - this floor, however, was found underneath the building's footer stones and thus likely belongs to an earlier structure. In Zone II the tile floor overlays a mortar and brick floor. The wooden floor in Zone III may have been preceded by a red tile floor (Feature S49). A brick floor, which may have been part of a previous structure, does underlie the fill below the wooden floor. The use of expensive materials indicates a rather exclusive or high status use for the building.

The eastern interior wall in Zone I is scarred from the (historical) demolition and removal of a substantial brick double hearth. The hearth was divided into two equal work areas by a brick wall connecting the eastern interior wall to the interior dividing wall to the west of this area. Although the exact function of the hearth could not be determined from archaeological evidence, some type of cooking or industrial operations must have taken place in this area. The very substantial exterior wall footer clearly indicates the desire to have a support for a wall weighing much more than what is currently present on the site.

One of the excavated features offers an indication on one of the structure's secondary functions. In the southeastern corner of Zone I, a firepit was unearthed. Several ceramic crucibles were retrieved from the feature. The *terminus post quem* for this feature is 1787, which provides a tie between the feature and the arrival of the French in 1791 and the demise of the Second Dutch West Indies Company at approximately the same time.

The architectural research has pointed out that the structure is most likely to be the Dutch Gabled building as seen on several artistic views of Oranjestad. Although this discovery does not provide direct information about the structure's former function as such, it does offer the possibility to conduct targeted archival research.

The most informative foundation exposed during the excavation was approximately 50 cm wide and 75 cm deep foundation-wall supporting the southern exterior wall of the building and forming a solid base for the structure. The footer was seen along the structure's entire southern wall and was built directly on shoreline sand. The substantial footer indicates the need to have support for a wall weighing much more than what is currently present on the site. This would

fully support the weight of the high gabled roof indicated for this building in historical renderings prior the late nineteenth century.

The archaeological research revealed that the interior walls were supported by irregular natural stone footers, all at an approximate depth of 30 cm beneath floor level. Three of the excavated test pits give an insight in the site's stratification. Evaluating the interior stratification of the building, we can conclude that the structure was erected on top of several fill layers (e.g. destruction debris layers or fill brought in from somewhere else). The brick floor and a posthole point towards site usage prior to the erection of the warehouse (prior to 1730). The complex stratification on the site's interior further reinforces this observation. The natural gravelly sand subsoil was observed at 170 cm beneath the tile floor grade. The stratification on the exterior of the building as seen in the southern test pit reveals a site formation that is partly similar to the interior stratification, however with a few unique qualities. As noted before, the firm, exterior foundation has been built on top of the sea sand, which was observed here at a depth of 175 cm under ground level. The foundation of another structure was observed on the south side of this exterior test pit. In between both structures the research has revealed evidence for multiple flood events, as several alluvial deposits were identified. This indicates that the space in between both buildings must have been open and uncovered for a certain period of time. On top of those deposits a compacted walking surface and several layers of debris were found. The upper 50 cm of soil underneath the original modern ground level consisted of modern fill around the entire building. Previous research along Oranje and Gallows Bays has indicated that some debris layers found on excavations in Lower Town are actually from erosion of the steep cliff running along its eastern side and are unlikely to be contemporaneous with the structures they are associated with.

The current research indicates many alterations have been made over its 300 years of history. The surviving exterior masonry building walls are very thick, largely intact, and unaltered from their original construction. The original façade of the building, facing north, carries two arches in-filled with yellow brick. During the restoration process it was determined that this alteration occurred sometime after the building was completed most likely when the much higher gabled ends were removed or destroyed.

The roof structure that sheltered Zone III is complex and dates to the eighteenth century. However, it is an eighteenth-century roof from another building that has been retrofitted to this space. The existing hipped roof over Zone I dates to the late 1970s when the building was upgraded by the current owner's family. Both doorways in the Zone II vaulted alleyway were originally open with no physical evidence of a gate or door. The doorways were modified in recent times using refuse brick—again perhaps when the end gables were removed sometime in the nineteenth century.

Zone I was originally divided into three rooms. The walls dividing the area were demolished at some unknown point in the past. A shadow of flue for the double hearth dividing the original eastern zone into two separate small chambers is visible from the wide horizontal scar on the centre of the eastern wall face. In the southeastern corner of Zone I, the doorway was in-filled to become a window and

the window was expanded to become a doorway. The east wall had a window and the south wall had a door.

The brick rubble from the north and south gables was likely reused either in Oranjestad's upper town or perhaps it was exported to nearby St Barthélemy where many warehouses and other structures in Gustavia were built from brick sold from St Eustatius (Gilmore 2006a). Parts of the red tile floor as found in Zone I and Zone II were possibly reused on the drip-line on the outside of the building when the replacement roof was added during the nineteenth century.

The building's English bond masonry - alternating courses of stretchers and headers- consistently used throughout the whole building, suggests that this structure dates to the eighteenth century, and very likely from the early eighteenth century. The shallow segmented arch over the door on the southern elevation and the two ends of the barrel vault that defines Zone II are also masonry details indicative of earlier eighteenth-century masonry construction.

The economic role of the Lower Town for pan-Caribbean trade is quite clear from both documentary and archaeological evidence. Trade grew even more after the American War of Independence reaching its apogee in the 1790s (Goslinga 1990; Klooster 1998). Taxes under French and English occupation (1795-1816) and the severe decline of trade on the island after the 1820s (due to a substantial shift in commerce from the Caribbean to the United States) resulted in a massive reduction in population and general urban decay for the next one hundred fifty years (Gilmore, 2006a). This building likely served as a centre for trading activities, not only on the island but also for the entire Atlantic World. Its immediate proximity to the Scale/Weighing House and its monumental architectural components strongly suggest ownership by an economically significant entity—most likely the Dutch West India Company.

This last century and a half is reflected in the modifications made to the building during this period when St Eustatius residents were trying to eke out an existence on an island that had become economically isolated relative to its heyday. Several strong earthquakes in the 1840s severely damaged structures on the island and could very well have brought down the gables. The earthquake on 8 February 1843 was perhaps the strongest to ever hit the region with an estimated power of 8.5 on the Richter scale (Warneford 1956; Flores *et al.* 2012). The ground floor may have survived relatively intact. However the original roof structure, large double hearth, exterior kitchen, some windows and doorways, and perhaps much of the tiled interior floor were destroyed with the collapse of the tiled roof and brick gables. Subsequent owners then repaired the building utilising materials at hand including the roof structure from other warehouses. It remained occupied until the 1980s when it was virtually abandoned and suffered considerable natural damage.

However, the owners rescued the structure from certain death when they decided to restore it to the best of their financial ability. T. and L. Durby are to be commended for supporting the archaeological and architectural research needed to provide the fullest possible story for their historic building. It is now

one of the jewels along Oranje Bay and serves as an excellent example of can be accomplished with cooperative work between developers and the historic preservation community.³⁴

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Mapping sites, mapping expectancies, mapping heritage

The archaeological predictive maps of St. Eustatius,
Saba, and Sint Maarten

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and Ruud Stelten*

Introduction

In March 2011, an archaeological values map was compiled for St. Maarten, the Dutch-side of the island of St. Martin. The mapping project was part of a broader cooperation program between St. Maarten and the City of Amsterdam, with involvement of the Bureau of Monuments and Archaeology, Amsterdam (BMA). The creation of the St. Maarten archaeological map was seen as a necessity within the construction of planning policies for the recently autonomous (2010) St. Maarten government, Planning Office (Ministry of VROMI). In 2012, the Dutch Ministry of Education, Culture and Science provided the St. Eustatius Center for Archaeological Research (SECAR), Oranjestad, St. Eustatius (Caribbean Netherlands) with the task of creating archaeological predictive maps for the islands of St. Eustatius and Saba.

The creation of archaeological maps, displaying archaeological values known to be present and outlining areas where such values might be expected, fits well in the system of Dutch heritage management which has set as primary goal that archaeological values should be preserved *in situ*. The creation of archaeological maps provides the first impetus for allowing archaeologists as well as planning officers to know which archaeological values are actually present in an area, and in which areas as yet unidentified values might be expected, to allow effective measures to be taken to preserve these remains *in situ*.

In the Netherlands, three different types of archaeological maps are being created and used. The first and most commonly known one is the archaeological map, or archaeological values map. This map displays the locations of sites identified in a specific area. The contours of the sites are usually outlined, in order to display their actual location and boundaries as accurate as possible, but maps with point locations (for example, showing the location of the center of an archaeological site) also occur. Archaeologists can also add expectancy zones to such a map, thus creating a second type of map: an archaeological predictive map. These zones indicate if there is a high, medium or low likelihood that archaeological sites could be present in an area. Such a map can be consulted in order to see if archaeological values might be expected. Finally, local governments and the Dutch Cultural Heritage Agency (Ministry of Education, Culture and Science) can also add advices and regulations to sites and zones displayed in archaeological predictive maps. By this, a third type of map is created, the so-called heritage policy map (*beleidsadvieskaart*). These advices and regulations are added in order to enforce specific actions aiming at further research or measures aiming at direct protection of sites and areas, to be acknowledged by developers and archaeologists, in order to ensure effective *in situ* preservation of the local archaeological heritage. The St. Eustatius, Saba and St. Maarten maps are archaeological predictive maps, all having expectancy zones added to the overview of archaeological values.

The creation of archaeological site inventories of St. Eustatius, Saba and St. Maarten

The first scholar who started to make an archaeological inventory for St. Eustatius was Jan P.B. De Josselin de Jong (1947). In the early 1980s Norman Barka continued the island site inventory, introducing the site identification system that is still being used today (Eastman 1996). While conducting an archaeological fieldschool in St. Eustatius for students from the College of William and Mary, Williamsburg, Barka started numbering archaeological sites present on the island, starting with SE1, being a warehouse site excavated in Lower Town, Oranjestad (Eastman 1996). Jay Haviser (1985a) made an initial island-wide field survey inventory in 1983, for the Archaeological-Anthropological Institute of the Netherlands Antilles (AAINA), while John Eastman (1996) made an inventory of all sites known in 1996. An official government Monuments Ordinance was established on St. Eustatius in 1989, with the goal of preservation for the most important of heritage sites (Haviser & Gilmore, 2011). The past decade, archaeologists of Leiden University and SECAR have continued mapping heritage sites on St. Eustatius using SE codes. Each time a new site is discovered, SECAR hands out a new site number, thus continuing Barka's and Eastman's numbering system. SECAR also keeps the data base with site records, which lists up to several hundreds of SE numbers until now, referring to sites on land as well as underwater.

Similarly to St. Eustatius, pioneering archaeological research on Saba was conducted by De Josselin de Jong (1947). An initial archaeological sites inventory was compiled by Haviser (1985b) again for the AAINA. Albeit the small village areas of the island were not inventoried in this first survey, he initiated the SB

code system of registry for the Saba sites. From 1987 till 1990 Hofman and Hoogland conducted a survey program in the Spring Bay area, Giles Quarter and The Bottom (Hoogland 1996). Subsequently, Frans Brugman (1995) published a detailed inventory of the historical monuments on Saba, including within the small villages. Into the 21st century, archaeologists of Leiden University and later the Saba Archaeological Center (SABARC) have continued to identify heritage sites for the island, all using the standardized SB code and registry system. Although the Saba government publicly recognizes the importance of monuments, it has yet to establish an official Monuments List.

The initial island-wide archaeological sites inventories for St. Maarten were more complicated due to the bi-national Dutch-French status of the island. Nonetheless, once again for the AAINA, Havisser (1988) conducted an initial field survey inventory of the archaeological sites for the entire island. He initiated the SM code system for sites on the Dutch St. Maarten sites registry, and some of the French side sites. However, later intervention by French archaeologists, with particular reference to the extensive work of Dominique Bonnissent (2008), required a separate registry system for the French side sites. It is in part due to the separate registry and recording systems, that until now an archaeological values map for the entire island, Dutch-French sides together, has not been compiled. The ongoing registry of heritage sites on St. Maarten, is predominantly being conducted by the St. Maarten Archaeological Center (SIMARC), as the government authority for this service. In 2000, the St. Maarten government established a Monuments Ordinance, with an official Monuments List registry.³⁵

Starting point and approach

The starting point for the creation of the St. Eustatius and Saba maps was formulated by SECAR. First, the maps were supposed to provide overviews with archaeological site locations and expectancy zones to be used by planning officers and archaeologists. A first version of the maps would not need to distinguish between pre-colonial and historic sites or between pre-colonial and historic expectancy zones. Secondly, as conservation of archaeological heritage at the islands is at risk as a result of the continuing development of the islands, a quickly made first version of the maps was required, to be fine-tuned in later updates. Finally, SECAR preferred the maps to be visually similar to the predictive maps created by the Dutch Cultural Heritage Agency (Ministry of Education, Culture and Science) for the Netherlands.³⁶

The archaeological maps of St. Eustatius and Saba were created by *ARGEOgraph* (Maaike S. de Waal and Jochem Lesparre), based on information provided by SECAR (Ruud Stelten), SABARC (Ryan Espersen) and Leiden University (Corinne L. Hofman, Menno L.P. Hoogland and student Pieter Soffers).

35 <http://dcnnature.org/wp-content/uploads/2012/09/D10-SXM-MonumentsOrdinance-AB2000-01.pdf>.

36 In the Netherlands this type of map is called *Indicatieve kaart archeologische waarden* (Indicative Map of Archaeological Values); (<http://archeologiein nederland.nl/bronnen-en-kaarten/amk-en-ikaw>).

The bases of the St. Eustatius and Saba maps consist of topographic information that is a selection of the GIS classes that have been provided by the St. Eustatius planning office in 2012. Some road sections have been added to the St. Eustatius map using local knowledge of Stelten and the satellite image. In both maps, a satellite image of the complete island served, together with the topographic information, as reference for mapping sites and expectancy zones.³⁷ The satellite image information turned out to be crucial in the creation of the maps, as it allows archaeologists to better pinpoint the locations of archaeological sites and zones of expectancy, as they have much more detail about the physical environment when compared to the topographic information available for both islands.

The St. Maarten Heritage Map, as the first of these three maps, was created from a cooperation between the St. Maarten Ministry of VROMI (Planning Office), the SIMARC (Jay Havisser) and the BMA (Jerzy Gawronski). The National Archaeological-Anthropological Museum (NAAM) on Curaçao provided some initial contact assistance. The technical aspects of the actual map compilation were coordinated by BMA (Bas van Sprew and Sander IJzerman). The concept of the St. Maarten archaeological value map was to have an easy-access reference source for heritage sites, as well as an expectancy model for potential heritage sites on the island, in order to facilitate planning permits, zoning, and inspections approvals for the government. The intention of the St. Maarten archaeological map was the integration of archaeology databases into the spatial planning goals of the Ministry of VROMI, as a part of the zoning plans. This was intended for compliance with the Valetta Convention, and allowing the government of St. Maarten to maintain high-standards for cultural heritage preservation.

Creating the St. Eustatius map

The St. Eustatius map contains 7 classes. These consist of 1) archaeological sites, 2) excavated archaeological sites, 3) archaeological walls (with an uncertain position), 4) historical city, 5) high archaeological expectancy, 6) medium archaeological expectancy and 7) low archaeological expectancy (Figure 18.1).

The archaeological site inventory of SECAR (version March 2013) provided a starting point of which sites needed to be mapped. The sites are displayed as complexes (such as plantations), not showing individual structures such as houses or cisterns. Wall complexes have also been indicated as sites, where possible. Isolated walls are marked individually. Most of the archaeological sites and walls were mapped by RTK GPS surveys or by satellite image mapping using local knowledge of Stelten and Hoogland. The RTK GPS surveys were carried out by Leiden University students in 2011 and 2012 (Gilmore *et al.* 2011). As reference, a list of horizontal coordinates of DP reference points was used, with height information from a 1963 topographic map.³⁸ Walls mapped during the 2008 Northern Hills

37 The St. Eustatius satellite image is a WorldView-2 satellite image of 18 February 2011, purchased by SECAR from MapMart. The Saba satellite image is a Ikonos-2 orthorectified satellite image of 23 November 2007 14:55 GMT, purchased by ARGEOgraph from e-GEOS.

38 *St. Eustatius topographic map by KLM Aerocarto*, published by the Cadastral Survey Department of the Netherlands Antilles in 1963.

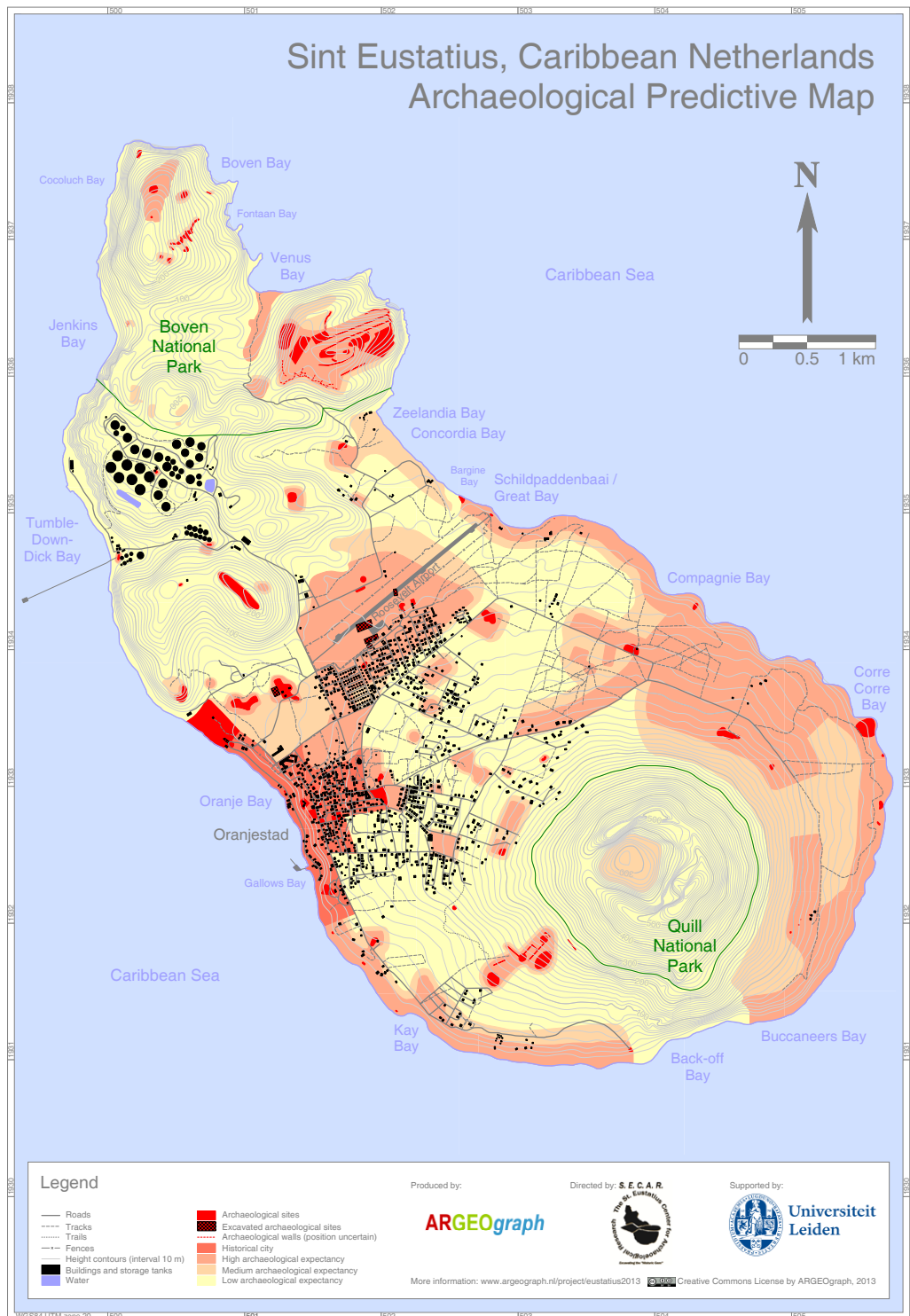


Figure 18.1: Archaeological Predictive Map, St. Eustatius, Caribbean Netherlands, March 2013 (ARGEQgraph, SECAR and Leiden University); (size reduced to fit page, scale unknown).

survey by Grant Gilmore (then SECAR archaeologist) have also been added to the map, representing dotted lines suggesting their approximate handheld navigation GPS location in the landscape if these walls could not be retraced in the field in 2012 due to accessibility problems and if they could not be retraced in the satellite image of the island either. Last but not least, the Golden Rock site location has been copied from the Golden Rock report (Versteeg & Schinkel 1992).

A special class on the map is taken by the historical city of Oranjestad. The historic city has a high expectancy and can be considered to be one large site, as long-term and relatively intensive habitation has occurred here over the centuries. The historic city has been mapped using the city outlines of the 1781 and 1916 maps of the island.³⁹

Finally, the expectancy zones have been added to the map. Zones have been labeled as having a high expectancy for archaeological values when they directly border known archaeological sites of which the limits have not yet been well established, and the archaeological remains can be expected to expand beyond the indicated site boundaries. They have also been labeled as having a high expectancy when they offer attractive conditions for pre-colonial habitation or exploitation (based on expert knowledge of Stelten, Soffers and De Waal). Finally, if areas are indicated on the 1781 map (note 39) as being the location of a plantation, of which the remains have not (yet) been discovered, these areas have also been awarded a high expectancy.

Zones have been labeled as having a medium expectancy for archaeological values when they immediately surround a zone of high expectancy, thus creating a buffer area towards low expectancy zones, taking local topography into account. Other zones of medium expectancy have been identified on the presence of mediocre conditions for pre-colonial habitation or exploitation (based on expert knowledge of Stelten, Soffers and De Waal). Areas appearing on the 1742 map of the island, giving the approximate location of a plantation, of which the remains have not (yet) been discovered, have been assigned a medium expectancy too.⁴⁰ Finally, areas labeled as sites during the 2008 Northern Hills survey mentioned above, even though these site locations could not be retraced in the field in 2012, have been labeled to have a medium expectancy too. One additional area has been assigned a medium expectancy: the crater of the Quill volcano. Even though no material cultural remains have been found as yet at this location, quite surprisingly ecological signs of human presence have been discovered (fruit trees that were possibly planted by run-away slaves).

The remainder of the island has been classified as having low expectancy for archaeological values.

39 Topographic map St. Eustatia, Topographically Drawn & Humbly Dedicated to his Excellency General Vaughan Commander in Chief of His Majestys Forces in the West Indies created by P.F. Martin in 1781, obtained from William L. Clements Library University of Michigan Manuscripts Division, John Vaughan Papers, Maps 7-F-8; Topographische kaart van Sint Eustatius, schaal 1:20.000. Map printed by J. Smulders & Co. in 1916.

40 Plaan van St. Eustatius, map created by an unknown cartographer in 1742, obtained from Algemeen Rijksarchief 4.MIKO 339.

Creating the Saba map

The Saba map contains 5 classes. These consist of 1) archaeological sites, 2) historical city, 3) high archaeological expectancy, 4) medium archaeological expectancy and 5) low archaeological expectancy (Figure 18.2).

The archaeological site locations shown on the map were based on surveys carried out by Haviser in the 1980's (Haviser 1983, 1985b), by Hoogland and Hofman from the 1980's until 2013 (Hoogland, pers. commun. 2014 and 2015) and by Espersen from 2008 until February 2015 (Espersen, pers. commun. 2014 and 2015). Similarly to the St. Eustatius map, the sites are displayed as complexes (such as plantations), not showing individual structures such as houses or cisterns. Differently from the St. Eustatius map, excavated areas have not been indicated. Extensive terracing (possibly related to the agricultural periphery of Palmetto Point, on the northwest of Saba) is indicated as a site. Individual terraces have not been mapped. The archaeological sites are mapped by satellite image mapping using expert knowledge of Espersen and Hoogland or by handheld navigation GPS survey data acquired by Espersen during surveys in 2013 and 2014.

The class 'historic city' has been mapped using the outlines of The Bottom as indicated by Espersen, based on expert knowledge. These outlines have been checked on the 1816 and on the 1850 maps of Saba.⁴¹ This class has a high expectancy and can be considered to be one large site, as long-term and relatively intensive habitation has occurred here over the centuries.

Similarly to St. Eustatius, on the Saba map zones have been labeled as having a high expectancy for archaeological values when they directly border known archaeological sites of which the limits have not yet been well established, and the archaeological remains can be expected to expand beyond the indicated site boundaries. They have also been labeled as having a high expectancy when they offer attractive conditions for pre-colonial habitation or exploitation (based on expert knowledge of De Waal and Hoogland). A specific type of attractive condition on a steep island like Saba is the presence of flat or relatively flat areas. These areas, identified using contour lines (as provided in the St. Eustatius planning office GIS data) and Google Earth views (consulted in April 2014), have also been assigned a high expectancy. Finally, if areas are indicated on the 1850 map (note 41) as being the location of activity of which the remains have not (yet) been discovered, these areas have also been awarded a high expectancy.

Similarly to the St. Eustatius, on the Saba map zones have been labeled as having a medium expectancy for archaeological values when they immediately surround a zone of high expectancy, thus creating a buffer area towards low expectancy zones taking local topography into account. Other zones of medium expectancy have been identified on the presence of mediocre conditions for pre-colonial habitation or exploitation (based on expert knowledge of De Waal and

41 The Island of Saba, by Capt E.H. Columbine, RN. With view of part of the Island. About 2½ inches to 1 mile. Published by the Admiralty, 1816. Held by the National Archives, Kew; West Indies, Leeward Islands, St. Christopher and Nevis, surveyed by Capt. E. Barnett, assisted by J. Ward & W.F.B. Edwards, H.M.S. Thunder, 1848. Eustatius and Saba, surveyed by Lieut. G.B. Lawrance, Lieut. W. Mooney and J. Parsons, H.M.S. Scorpion, 1850. National Maritime Museum, Greenwich, London.

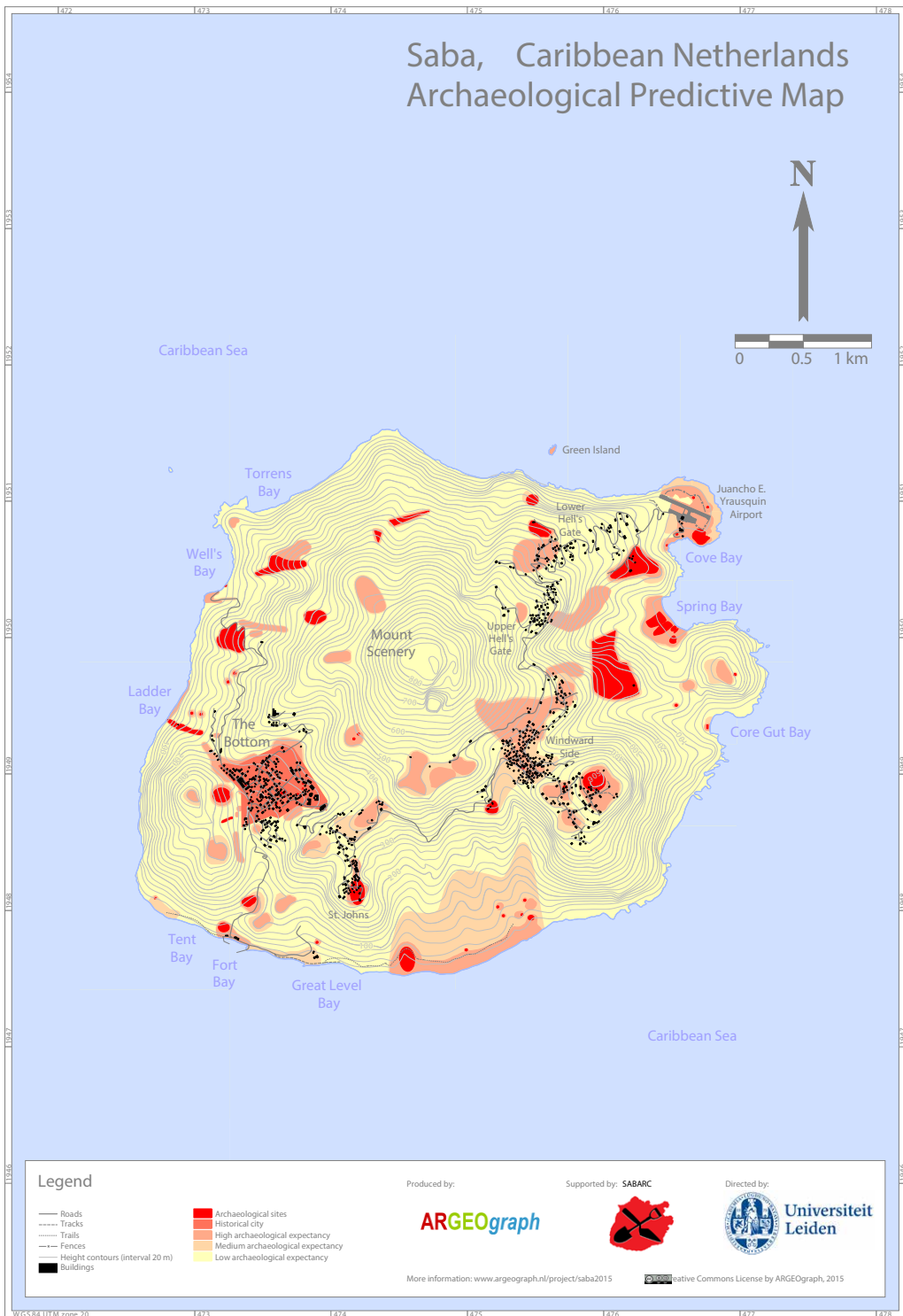


Figure 18.2: Archaeological Predictive Map, Saba, Caribbean Netherlands, February 2015 (ARGEOgraph, Leiden University and SABARC); (size reduced to fit page, scale unknown).

Hoogland). In addition, an area between English Quarter and the trailhead to Spring Bay, referred to in a book of sales records, between 1815-1875, as being a location to be used as government burial ground for the poor (Espersen, pers. commun. February 2015), has also been labeled to have a medium expectancy.⁴²

The remainder of the island has been classified as having low expectancy for archaeological values.

Creating the St. Maarten map

There are three basic heritage database maps assembled into the St. Maarten Heritage Map, each laid over the topographic map of 1987 (Figure 18.3). The primary heritage map represents a detailed compilation of historical and archaeological data sets by the SIMARC (Haviser). It includes all heritage research results that were known in 2011, including the 50 registered monuments and various other known heritage sites for the Dutch-side of the island. In addition to tangible heritage sites, locations of significant intangible heritage were also noted on the map. This primary heritage database map was then complimented by the historical Werbata Map from 1916 which indicates unique features of the cultural and natural landscape, such as dry-stone boundary walls, wells, and house structures present in 1916.⁴³ The database includes images of specific monument sites, site descriptions and GPS coordinates. The second and third map consist of a pre-colonial expectations value map and a historical expectations value map, each with the intention to delineate zones of high or medium expectation values, based on the compiled data sets and the 1916 Werbata map indicators. High expectancies for archaeological values have been indicated for areas that had concentrations of house structures in 1916, and for areas where shoreline access is most feasible. These high-value designations require an archaeological inspection report to be submitted to VROMI for any development or building plans within those areas. The usefulness of these various layers of specific heritage data and the expectation values mapping has proven to be very significant for the Ministry of VROMI in evaluating development policies and controlling specific planning projects.

Precision: the St. Eustatius and Saba maps

Due to the use of satellite images, handheld GPS and RTK GPS without reference station data, and recent and historic topographic maps, the precision of most of the St. Eustatius map has been estimated to be less than 10 m, whereas the precision of most of the Saba map has been estimated to be about 10 m. This is acceptable for mapping at scale 1 : 10 000 as it corresponds to 1 mm in the map.

For many sites on St. Eustatius, and a few on Saba, handheld navigation GPS survey data were available. Their precision is less than 10 m, which is acceptable for mapping sites. Many sites on St. Eustatius had been positioned using RTK GPS survey data, obtained in 2011. These have a precision of less than 0.1 m, which

42 Saba Sales Records 1815-1875, Will Johnson Collection, Saba: 20/1/1873.

43 *Topografische kaart van Sint Martin (Nederlandsch gedeelte)*, scale 1:20,000, created by J.V.D. Werbata, 1916. Lith. J. Smulders & Co., Den Haag.



Figure 18.3: Heritage Map. Sint Maarten: Archaeological map, March 2011 (Ministry VROMI, SIMARC, NAAM, BMA); (size reduced to fit page, scale unknown).

is more precise than needed for mapping sites. Some problems with the reference station during the 2012 RTK GPS survey resulted in degradation of precision. The precision of these coordinates is less than 0.1 m for points where reference station data was available and less than 10 m for points where reference station data was not available.

For almost all sites in Saba, and for a few in St. Eustatius, no coordinates were available. The locations of these sites have been drawn in the map manually, using the terrain features visible in the satellite image, based on the expert knowledge of researchers familiar with the archaeology and the physical environment of these islands. However, it is obvious that mapping a site in a densely vegetated area may turn out to be less precise when compared to mapping a site in an area with recognizable topographic features one can rely on for orientation. The Saba satellite image is an orthorectified, pansharpenered RGB image with 0.8 m resolution. Its 19 degree off-nadir viewing angle is orthorectified with an accuracy of 10 m. This results in mapped points with at best comparable precision, provided that nearby features are recognizable in the image. Many mapped points, however, are situated in densely vegetated areas and are expected to be less precise. The satellite image of St. Eustatius, however, is a non-orthorectified, pansharpenered RGB image with 0.5 m resolution. Its less than 1 degree off-nadir viewing angle gives a predicted maximum relief displacement of 5.8 m. This results in mapped points with a precision of less than 10 m, provided that the points to be mapped are recognizable in the image.

The GIS data of the topographic layers for St. Eustatius, obtained from the St. Eustatius planning office, deviates from the satellite image and from the RTK GPS measurements. The mean offset is 15 m in northing and 3 m in easting, probably due to inaccurate transformation from a different coordinate reference system. The amount of offset of the topographic layers was estimated at 7 triples of corresponding points in the satellite image, mainly corners of buildings. The offset has been corrected graphically in the PDF maps.

The available historical maps could not be used without precaution either. It turned out to be difficult to geo-reference the 1742 and 1781 historic maps of St. Eustatius and the 1850 Saba map (notes 39-41), as the outlines of the islands and the local topography had not been mapped accurately. The maps have been used by applying as many control points as possible, but the inaccuracy of the historic maps could not be completely overcome. The 1916 map (note 39) could be geo-referenced more accurately. This map has a precision of less than 10 m due to its scale.

Several other historical maps of the islands were too inaccurate to be geo-referenced at all, and could thus not be used. They have only been consulted as a general source of information.⁴⁴ Maps and site location sketches from Haviser's 1983 field notes and 1985 publication on his Saba surveys (Haviser 1983, 1985b), as well as maps from Hoogland's PhD thesis on pre-Columbian Saba (Hoogland 1996) could not be geo-referenced either. These maps have thus not been used,

44 These maps have not been listed in this publication, but full lists of sources consulted have been listed in the colophons that accompany the St. Eustatius and Saba maps (<http://www.argeograph.nl/projecten.htm>).

which is also why information on excavated areas is lacking from the Saba map, but they have been consulted as a general source of information instead.

The mapping of areas with high expectancies for colonial habitation and use has been based on the study of historical maps and known historic sites. For mapping areas with high expectancies for pre-colonial habitation and use, the landscape itself was considered. As described elsewhere (De Waal 2006:20), mapping areas with attractive conditions for pre-colonial habitation usually concentrates on identifying “factors related to physical aspects of the landscape [...] associated with subsistence, extraction or exploitation of natural resources and other environmental factors such as the presence of flat areas that may allow habitation, accessibility by sea through the presence of canoe landing spots, and viewpoints and strategic locations that may be considered important for defence and observation”. It is acknowledged that social, political and ceremonial factors have not been taken into account when assessing areas for the possibility of having been used by people in the pre-colonial past, simply because these factors are unknown. The focus on physical natural characteristics has provided a standardized way of evaluating attractiveness during pre-colonial times.

The distinction between attractive and mediocre conditions for pre-colonial habitation or exploitation admittedly remains a subjective one. Most important, however, is that areas where archaeological remains might be expected are on the map, in order to make sure that they will not be neglected. Expectancy zones indicated need to be tested, verified, monitored and, if necessary, modified on the map.

Precision: the St. Maarten map

For the St. Maarten map, no recent digital topographic map was available, the available and usable topographic map, dating from 1987, clearly reflects several topographic features that either no longer exist or have been altered. In addition, post 1987 features are not indicated on the map. The St. Maarten map is also lacking SIMARC’s Heritage Tree GPS database as a result of measurement inconsistencies.⁴⁵

Results

For St. Eustatius and Saba archaeological predictive maps have been created (Figures 18.1 and 18.2). The maps are entitled ‘Archaeological Predictive Map, Sint Eustatius, Caribbean Netherlands (March 2013)’ and ‘Archaeological Predictive Map, Saba, Caribbean Netherlands (February 2015)’. The St. Eustatius map displays all archaeological information available in March 2013, whereas the Saba map is up to date as recently as February 2015.

⁴⁵ SIMARC has compiled a handheld navigation GPS database of Heritage Trees for the Dutch side, identifying over 280 tree locations for trees having trunks over 1 meter diameter.

Both archaeological maps have been made available in a directly printable PDF format, one at B1 paper size for printing at scale 1 : 10 000 and one at A3 paper size for printing at scale 1 : 25 000.⁴⁶ In addition, the digital archeological map classes as listed in the legends of the maps, have been provided as ArcGIS shape files to the planning officer of St. Eustatius and to the archaeologists of SECAR and SABARC. These GIS files will help planning officers and archaeologists to combine the archaeological data with other geographic maps and satellite imagery in GIS software. Planning officers can thus advise developers about the archaeological values present in areas they wish to develop, before they start disturbing the areas. As with all GIS data however, the user should be aware of the limitations by the precision of the data when zooming in. Archaeologists can use the maps in studying site patterns and landscape use in the past, but they can also use the maps to fine-tune their investigations to areas where sites might be expected, but have not been identified yet. In short, the maps display practical overviews of the locations and boundaries of the archaeological sites that were known on the islands at the moment the maps were produced, and they provide information on areas to be investigated for the actual presence of archaeological remains as they have high or medium expectancies for archaeological values.

For St. Maarten an archaeological predictive map, entitled ‘Heritage Map St. Maarten (March 2011)’, has been created. This map displays all archaeological information available for the Dutch side of St. Martin in March 2011. It consists of three maps that have appeared in a directly printable PDF format on A0 paper size for printing at scale 1 : 10 000. These include the archaeological values map (Figure 18.3), a predictive map for pre-colonial heritage and a predictive map for historical heritage. The St. Maarten Heritage Map has become officially incorporated as an essential element in the Ministry of VROMI implementation of cultural heritage preservation, through its placement (including a site database), directly in the main-frame computers for the Ministry. Thus, the various sectors within the Ministry VROMI, such as the Permits Office, Planning Office, Inspections Office, Policy Office and Public Works Office, each have direct access to the data, and they are utilizing that access regularly for more effective and efficient heritage preservation. Thus, the St. Maarten archaeological map is a spatial planning instrument, which includes an explicit predictive function, thereby allowing the integration of archaeology in the early stages of building and development plans for the island. It has already proved to be an effective means to control the loss of heritage sites. Furthermore, the St. Maarten Heritage Map is also utilized by the Monuments Council, SIMARC, and other Ministries within the St. Maarten government, such as the Ministry of Culture and Education, for public education and heritage awareness programs. Finally, as noted earlier, the dual system of data sets and recording systems for the Dutch and French sides of the island resulted, for timing and logistical reasons, in only the Dutch side being represented on this map. It is hoped that into the future, a complete island-wide archaeological map will eventually be composed, as a bi-national project.

46 The St. Eustatius map can be downloaded from <http://www.arceograph.nl/project/eustatius2013/beschrijving.htm>. The Saba map can be downloaded from <http://www.arceograph.nl/project/saba2015/beschrijving.htm>.

Heading for the future

By pointing attention to presence of archaeological sites and the location of possible areas of interest used in the past, which are worth being remembered and taken care of, archaeological maps are great tools for archaeologists, planning officers, developers and the interested public. As they provide knowledge to all parties about where sites and areas of interest are located and about what their boundaries are, they can also serve as tools that help monitor and protect archaeological areas. In addition, they form a valuable educational tool for community involvement with their heritage.

It is important to realize, however, that archaeological maps are not representing static situations. They reflect the current state of knowledge at a specific moment in time. As the state of knowledge will increase and new field observations will become available, the maps need to be adjusted accordingly. The St. Eustatius and Saba maps have been created with the idea that a first quick map version should appear and that map updates should be made within one year after release. In addition, the creators of all three of these maps have recommended additional updates at least every five years following the refined map versions, in order to keep up with the ever extending knowledge about cultural heritage and past use of the landscape. However, due to budget limitations no updates are expected within the time frames mentioned above.

For the updates, besides mapping newly discovered sites or updated information on known sites and zones of expectancy, the creators of the maps have already recommended several improvements, including adding underwater archaeology sites, Second World War sites, monumental trees and places of remembrance. In addition, adding site data to the GIS layers, including site ID's and digital site information, mapping excavated areas (on Saba) and distinguishing between pre-colonial and historic sites and pre-colonial and historic expectancy zones (on St. Eustatius and Saba) will improve the usability of the maps.

Another important aspect to realize is that unlike the St. Maarten Heritage Map, the St. Eustatius and Saba maps have no legal status yet. The St. Eustatius map, for example, has been made available to the town planning office, both in GIS and pdf formats. This was requested by the Ministry of Education, Culture and Science when initiating the mapping project. Using the map, planner officers can accurately inform developers about chances that archaeological remains are, or can be expected to be, present in areas to be developed. However, no archaeological sites or areas within the landscape have been assigned a status as (protected) archaeological monuments by the island government yet, and there is no archaeological research agenda for the island with outlined and detailed requirements for archaeological research that should be undertaken when considering development of specific areas on the island.⁴⁷ As long as such local government regulations and archaeological

⁴⁷ The Dutch Cultural Heritage Agency (Ministry of Education, Culture and Science) formulated specific research agendas for all different archaeological regions in the Netherlands. These agendas list the current state of affairs, crucial research questions, sets of research regulations and best practices for all regions. The region of the Caribbean Netherlands is not included (<http://archeologiein nederland.nl/bronnen-en-kaarten/archeoregions-0>).

advice for different areas in St. Eustatius are lacking, no effective actions can be enforced upon developers in order to protect the islands cultural heritage. Creating the maps has been a first step. A second and crucial step must now be taken, to harness the islands archaeological heritage with actual legally enforced protection, with strict guidelines connected to the areas indicated on the archaeological maps, in order to ensure heritage continuity for future generations.⁴⁸

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Part Four

Epilogue

Into the Future for Archaeological Heritage Management in the Dutch Caribbean

Corinne L. Hofman and Jay B. Haviser

With the chapters of this book we have tried to present a broad perspective of the current status of Archaeological Heritage Management (AHM) in the Dutch Caribbean, yet it is imperative that we take these examples and project potential paths into the future. This has to be a future that ensures the people of the Dutch Caribbean with a safeguard for their heritage and in which the proper legal and logistical infrastructures are in place for appreciation of that heritage by the generations to come. From the various case studies provided for the Dutch Caribbean islands we can see a range of applications for AHM which consist of the most fundamental aspects for its goals, such as compliance with the Valetta Treaty and other international instruments. We have seen the principles that are necessary for sustainable AHM such as properly established legal frameworks, the standardization of recording techniques and the creation of basic databases regarding the heritage properties that are available on the islands. It is indeed often via specific site investigations and perspectives of the history and culture of particular sub-topics of a community or a time period in an island's history, that we can gain insights into the broader dynamics of Caribbean cultural interpretation and transformation. Perhaps foremost, we have presented clearly that there is an essential need for local community engagement and capacity building, so that AHM can be integrated into the various islands cultures, from the administrative to the popular levels. With this volume we hope to have opened the door towards a better understanding of the universal values of the cultural heritage of the islands, and the key role that this heritage can play in nation-building and identity confirmation among the peoples who inhabit these islands.

Into the future, we can see the development of a strong network of symbiotic relations among the islands of the Dutch Caribbean, but also one with the Caribbean region as a whole, geared towards preserving the area's cultural heritage and the management of its archaeological remains. A mosaic of heritage resources will unfold that includes interconnectedness between the islands, a cooperative relationship with the European part of the Kingdom of the Netherlands as a

component of our shared heritage, but as well distinguishing the unique character of the archaeological heritage of each individual island. However, we can see also the pitfalls that may confront us in the future, including challenges of proper physical preservation for both entire sites and artifact collections. And beyond these physical needs, there remains the necessary political will of the decision-makers on the islands to actually implement heritage management measures. This may require a greater active empowerment of the people to speak up for their interests and desires to preserve their culture.

This volume has tried to bring out these pertinent issues by providing examples of the empirical evidence present, the structural requirements needed and some goals to achieve success. We have a strong confidence that we can overcome the challenges before us and that, as the people of the Caribbean, we realize the value of our shared heritage and shall adjust our lives to accommodate the changing world in a sustainable way, with the desire to ensure that the existing cultural heritage will be part of the future generations on the islands.

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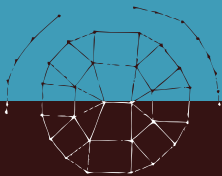
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MANAGING OUR PAST INTO THE FUTURE

Caribbean archaeological heritage is threatened by natural impacts but also increasingly by economic developments, often resulting from the tourist industry. The continuous construction of specific projects for tourists, accompanied by illegal practices such as looting and sand mining, have major impacts on the region's archaeological heritage. The geopolitical and cultural diversity of the Caribbean, the general lack of awareness of island histories and multiple stakeholders involved in the preservation process, have in many cases slowed down the effective enforcement of regulations and heritage legislation.

The development of archaeological heritage management (AHM) in the Dutch Caribbean islands started slowly in the early years of their semi-autonomy within the Kingdom of the Netherlands from 1954 onwards. With the dissolution of the Netherlands Antilles on 10 October 2010, Curaçao and St. Martin obtained a more autonomous status within the Kingdom, similar to Aruba has since 1986. Simultaneously, Bonaire, Saba and St. Eustatius became special overseas municipalities of the Kingdom of the Netherlands. Consequently, these islands now fall under Dutch regulations for cultural resource management. Irrespective of these geopolitical changes, AHM has been developing on the six islands over the past 25 years, partly because of the active role of localized island-specific archaeological institutions.

This volume provides a background to the history of archaeological research in the Dutch Caribbean and compiles a number of compliance archaeology projects that have been carried out under and in the spirit of the Valetta Treaty. In addition, with its discussion of the successful creation of localized community-based archaeological heritage associations serving as an excellent model for other island communities in the Caribbean, this volume represents a unique contribution to AHM in a wider regional perspective.



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