THE MARITIME HERITAGE OF THE CAYMAN ISLANDS:
CONTRIBUTIONS IN NAUTICAL ARCHAEOLOGY

A Thesis
by
ROGER CRAIG SMITH

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Approved as to style and content by:

[Signatures and names]

(Chairman of Committee)

(Member)

(Member)

(Head of Department)

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ABSTRACT

The Maritime Heritage of the Cayman Islands:
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Roger Craig Smith, B.A., University of Virginia
Chairman of Advisory Committee: Dr. George F. Bass

The Cayman Islands, three small, remote landforms in the western Caribbean, for several centuries possessed one of the most remarkable marine fisheries in the New World. From the moment of its discovery in 1503, this island group was recognized for its abundance of sea turtles—a resource which not only supported the opening of the West Indies, but also fostered the development of a unique race of sea-hardened people whose nautical skills have been renowned throughout the world.

The contributions of the Cayman Islands to the establishment of European hegemony in the Caribbean region have been only vaguely understood; similarly, the relationship between an isolated, insular environment and the cultivation of a distinct maritime culture also has lacked the attention it deserves. Unfortunately, seafaring traditions in the Cayman Islands, once paramount factors of subsistence and survival, now are rapidly disappearing in the modern flurry of air transportation and tourism. Maritime pursuits no longer provide incentives for young islanders to take up the traditional trades of their ancestors. Nonetheless, the foundation of the Caymanian character lies with the sea,
and this ultimately cannot be forgotten or ignored.

To better understand the ways in which an intrepid and independent island society developed in the frontiers of the sea, elements of anthropology, archaeology, history and geography have been forged to create a cultural perspective of the maritime heritage of the Cayman Islands. Derived from archival research, ethnographic studies, and archaeological field investigations, this thesis explores the roots of the Caymanian legacy. In the following pages, a presentation is made not only of the discrete and parochial aspects of the turtling trade manifested in the Cayman Islands from the mid-1600s—that is, the men who fished the marine reptiles; the vessels and methods they employed—but also how these seemingly distant and forgotten islands represented a vital and significant part of the growth of the West Indies.

This is the unique and previously-unrecognized maritime history of the Caymanian people. Its details have been sought and compiled out of an interest in and an awareness of the importance of that uniqueness.
PREFACE

Due to their remote geographical location and comparatively small population, the Cayman Islands often have been referred to as "the islands that time forgot." Having emerged only recently from an unpretentious, insular existence into the fervor of twentieth-century banking, real estate and tourism, an essentially maritime people are learning to adapt to new lifestyles, with dwindling incentives to look backward to the lessons of the past. A new cultural identity is developing at the expense of the old as the legacy of the sea disappears in the roar of jet airplanes and the rumble of cement trucks.

Scientific and scholarly research dealing with the Cayman Islands only began in the first part of this century. Indeed, the first hydrographic survey for the purpose of making a navigational chart of the island group was undertaken as late as 1880. Eventually, the Islands came to the attentions of researchers interested in West Indian studies. Although J. Walter Fewkes, sometimes referred to as "the father of Caribbean archaeology," briefly visited the Caymans, his investigations were confined to the search for prehistoric cultures (Fewkes, 1922). Finding no evidence of an aboriginal population except for a few stone axes in a cave, Fewkes continued his investigations elsewhere in more profitable regions, and archaeology took a back seat to other fields of inquiry being directed at the small island group.

Naturalists began to discover the distinctive wildlife of the Caymans, commenting in journals about birds (Lowe, 1911), reptiles
(Grant, 1940), fish (Thompson, 1946), and sea turtles (Duncan, 1943). The unusual limestone formation of the island group was noticed by geologists (Mately, 1926), and eventually geographers sought out the region and helped to end much of the insular isolation by physical and cultural observations (Billmyer, 1946; Doran, 1953). Recent global emphases on oceanography, ecology and marine geology have prompted similar studies of these conditions as they exist in the Islands (Rigby and Roberts, 1976; Stoddard and Giglioli, 1980).

Although the history of the Cayman Islands has not been neglected by interested researchers, it has been presented in either a piecemeal (Hirst, 1910) or summary (Williams, 1970) fashion. In addition, the nature of Caymanian culture and its changing situation recently has been addressed by at least one social anthropologist (Goldberg, 1976), however, only one small community was studied, leaving broader implications unformulated for the Islands as a whole.

The realization of the significance of the Cayman Islands' role in the course of West Indian affairs awaits an explanation of how and why they came to be the way they are today. This realization undoubtedly must rest on the collection of available information about the Islands, as well as on the accumulation of additional data which generally has not been available, such as that provided by archaeological discoveries, anthropological inquiry, and archival testimony.

The formulation of this thesis resulted from a research project conducted by the Institute of Nautical Archaeology (INA), which is based at Texas A&M University, College Station. In spring 1978, INA was approached on behalf of the Government of the Cayman Islands to discuss the feasibility of an archaeological survey of the waters surrounding
this Western Caribbean island group. The idea of a survey of shipwrecks in the Islands originally was conceived by Mr. C. Charles Adams, chairman of the Historical Subcommittee of the Caymanian Tourist Advisory Council. A devotee of West Indian history, particularly that of Jamaica and the Cayman Islands, Mr. Adams is dedicated to the preservation and display of relics from the past and actively has encouraged this pursuit through the establishment of a Caymanian Heritage Trust. Mr. Adams sought the advice of former United States Ambassador to Jamaica Sumner Gerard, asking his assistance in locating a professional organization equipped to carry out a survey within acceptable scientific standards. Mr. Gerard contacted Dr. George F. Bass, president of INA. As a non-profit, scientific and educational institute, INA is dedicated to the gathering and dissemination of information about past maritime activities through archaeological research in many parts of the world.

Although INA previously had not sponsored any archaeological investigations in the Caribbean area, Dr. Bass invited the author, a research associate with the Institute, to direct the proposed survey. Accordingly, the author elected to conduct this investigation as the thesis topic for his studies toward a master of arts degree in the Department of Sociology and Anthropology at Texas A&M University.

Mr. Gerard and the author subsequently visited the Cayman Islands and met with Mr. Adams, Governor Thomas Russell, and members of the Executive Council to discuss requirements and parameters for a comprehensive inventory and assessment of the Islands' underwater cultural resources.

It became apparent that such a project would be a timely one. As a Crown Colony of Great Britain, the Caymans have an Abandoned Wreck Law
that assigns to the Crown possession of all wreckage lying on the seabed for fifty or more years and also stipulating legal sanctions for the unauthorized removal or possession of wreckage. Island authorities had received applications for the salvage of shipwrecks, but they were hesitant to grant licenses without specific knowledge of the potential archaeological value of historic sites in their trust. A formal management program was needed to organize requirements and controls for the disposition of cultural resources, which, by their very nature, are finite in number. In addition, proposals to establish a maritime museum reflecting the Islands' unique seafaring traditions were being discussed in cooperation with the Caymanian Heritage Trust.

Members of the Institute of Nautical Archaeology supported plans for archaeological research in this area of the Caribbean not only because of the obvious need, but also because they believed the survey might provide an example to other West Indian nations of how scientific scrutiny, rather than the hunt for treasure, can bring aspects of national heritage to light. A two-season campaign to locate, inventory and assess shipwreck sites was organized in cooperation with the Cayman Islands' Government. The first season commenced in May 1979 on Little Cayman, the smallest of the three islands.

One of the two Lesser Islands, Little Cayman has a reputation for shipwrecks. Inhabited by only 15 people, the Island once was one of the busiest of the group, hosting small fleets of turtle fishing vessels and trading schooners. Over the years, however, Little Cayman has been overlooked by modern progress and her maritime past camouflaged by the all-consuming jungle and coral reefs.

The survey crew, comprised of ten archaeology students and
experienced volunteers, planned a survey strategy which included comprehensive coverage of areas most likely to contain shipwrecks, as well as the outer perimeter of the surrounding reefline. Certain terrestrial locations, which according to oral histories were alleged to have been used by early settlers, were also of archaeological interest. To locate sites, a combination of electronic sensing apparatus and positioning systems was employed in conjunction with visual search methods and the collection of local information from island inhabitants.

After a site was discovered, its precise location was surveyed from existing benchmarks and plotted on a master chart of the areas covered by the investigation. Careful examination of each site was undertaken to determine the extent of the wreckage and to record major features such as cannon, anchors, ship's structure and fittings. Limited testing by selective excavation or surface sampling was conducted to obtain diagnostic artifacts useful in determining a general date and cultural affiliation for each site. These items often included pottery sherds, clay smoking pipe fragments, glass bottle sherds, or remains of the ship's equipment and crew's possessions. The majority of these materials were returned to the areas from which they had been recovered after being examined, measured, typed and photographed. Some, however, were retained for further analysis or public display because of their historical significance.

A total of 17 archaeological sites, as well as indications of several others, was encountered on Little Cayman during the first field season. The remains of small colonial sailing vessels, merchant ships which had struck the reefs, 19th-century composite-built trading vessels, and modern wrecks all were given equal attention in order to
fully record each site for the Government. The most important discoveries were made in a shallow lagoon on the south side of the Island. A series of sites dating to the mid-17th century most likely represents the remains of a conflict that took place between English turtlers and Spanish corsairs, the latter emerging victorious.

At the end of the first season, it became clear that additional historical research might clarify the discoveries made on Little Cayman, and certainly more investigation of the general history of the Cayman Islands would be necessary before the following season’s survey of the remaining two islands, Cayman Brac and Grand Cayman. The early history of the group has been rather vague and ill-defined, and virtually no written records or documents survived at the time in collections in the Islands.

A proposal to conduct archival research in foreign repositories for the purpose of collecting materials pertinent to the history of the Islands was submitted to the Caymanian Heritage Trust. The Executive Council officially addressed the proposal and generously provided a grant for the author to travel abroad to various archives during the intervening winter months of 1979-1980.

The most obvious place to begin was Jamaica, protectorate of the Cayman Islands during colonial times. The Island Record Office in old Spanishtown and the West India Reference Library of the Institute of Jamaica yielded early correspondance between the Governor of Jamaica and the chief islanders of Grand Cayman. The earliest official census of the Islands was found and copied for the first time. References to the Caymans in various British abstracts of colonial records also were collected.
The Library of Congress in Washington, D.C. then was searched for such items as journals of voyages, early descriptions of the West Indies, and records of shipping losses. At the Geography and Maps Division, among the largest repositories of cartographical materials in the world, the director kindly allowed many early charts of the Caribbean to be photographed in order to assemble a unique collection of chronological perspectives of the Cayman Islands as they appeared to sailors and chartmakers in the past.

In England, the Public Record Office, recently relocated in a new building outside of London, proved to contain the most voluminous collection of records and documents pertaining to specific events and activities in the Cayman Islands. Diplomatic correspondance, official depositions, ship’s logs, muster rolls, court martial transcripts, captain’s letters, and similar materials were examined and compared, shedding new light on the Islands’ past.

Because the Institute was charged with conducting a marine archaeological survey, a visit to the Admiralty Hydrographic Office in Somerset was extremely worthwhile. Copies of the first Admiralty survey of the Cayman Islands, including official field notes, reports and handwritten sailing directions, were obtained. The original navigational chart, inked and watercolored from field plans, was examined and compared to modern charts of the Islands. Remark Books of various Royal Navy ships included descriptions of the maritime geography, local inhabitants, and availability of fresh water and provisions.

Mention of the loss of a West India Company (WIC) ship on Grand Cayman in early 17th-century Dutch chronicles of voyages to the Caribbean led the author to the Algemeen Rijksarchief in The Hague.
Unfortunately, it was discovered that most of the WIC records had been destroyed by a fire in the last century. Other chronicles located in the Nederlandisch Historisch Scheepvaart Museum in Amsterdam provided information on several Dutch visits to the Islands.

Of major importance to students of Spanish New World history is the Archivo General de Indias in Seville, where it was hoped the Hispanic side of early Caymanian history might be illuminated. Located in the 16th-century House of Trade, the Archive contains countless documents, many of which have yet to be catalogued, pertaining to Spain's once vast overseas empire. Bits and pieces of information on the Cayman Islands were discovered hidden in royal correspondence, testimonies of captured prisoners, depositions of unfortunate mariners, lists of prize ships, and similar records, all bound in numbered bundles. Photocopies and microfilms of documents compiled during the archival research project proved to be indispensable during the remainder of the survey.

The second field season began in May 1980 on the island of Cayman Brac. "The Brac," as it is called by Caymanians, proved to have fewer wrecksites than Little Cayman, perhaps due to the Island's prominent high cliffs and absence of an extensive reefline. However, the local population--some 1,600 "Brackers"--provided an invaluable source of historical information themselves. Relatively forgotten by time, these islanders still retain many old ways and traditional maritime pursuits, which were gladly shared with the survey team. A series of interviews with elder inhabitants was conducted for the purpose of collecting oral ethnographic data. Anecdotes, living memories, and legends passed down through generations of hawksbill turtlers, sailors and sea captains were recorded on tape and later transcribed into the field records.
Remains of shipwrecks were examined with virtually the same methodology applied to sites found on Little Cayman. In addition, several old catboats, the traditional turtling craft of the Islands, were found hidden in the bush and under rotting boat sheds on the beach. These vessels were of particular interest because they represent a tangible maritime tradition which has nearly disappeared from the Cayman Islands. Due to the dramatic decline in the turtling industry, boats such as these no longer are built and no longer are an integral part of Caymanian existence. In order to record this ship type before its uncelebrated demise, construction details, peculiar fittings and equipment were studied, measured and photographed. Lines drawings ultimately were produced from the field data to provide a better understanding of the hull characteristics and performance.

The final phase of the archaeological survey centered on Grand Cayman, largest in the island group. Due to this island's low-lying topography in relation to its size and the presence of an extensive fringing reef line, Grand Cayman yielded many more shipwrecks than the two Lesser Islands. The eastern end alone contained 24 wrecksites on one six-mile section of windward reef, representing a virtual graveyard of unfortunate vessels. Continued cooperation from local islanders and exhaustive fieldwork offshore revealed a myriad of maritime remains, which were examined and recorded. Fifty-five sites were surveyed in detail, and numerous terrestrial locations such as forts, homesteads and other early structures were investigated to provide an archaeological data bank for future research.

The archaeological record compiled from the survey of the three Cayman Islands encompasses over three centuries of cultural information.
which reflects seafaring activities, external and internal trade
patterns, shipbuilding and settlement practices, and fishing and wreck-
ing pursuits. Combined with historical materials collected from
literary and archival sources, as well as ethnographic information
gathered from island inhabitants, a broad but unique perspective of the
maritime heritage of the Islands has been assembled.

The essence of this maritime heritage centers on the sea turtle
and Cayman's relationship to it. Once the New World's largest turtle
fishery, the Islands for several centuries possessed a resource that not
only made a distinct impact on the development of the West Indies, but
also shaped the character of Cayman Islanders for posterity. Until the
middle of this century, turtle fishing was the basic thread of Caymanian
existence. It was the principal impetus in the evolution of a race of
seafarers unique to the Caribbean world.

The extent to which this maritime activity contributed to the
eyear history and colonization of the region is rarely recognized by
either scholars or islanders. However, as the resource has dwindled,
the special lifeways that evolved from the utilization of this resource
also have begun to die; eventually they will be forgotten, unless an
attempt to explain and celebrate the past is made for the benefit of
future generations. This thesis will make that attempt.
ACKNOWLEDGMENTS

I am indebted to a great many individuals and organizations for assistance in the preparation, execution and successful completion of the Cayman Islands Project, and consequently the formulation of this written work. Constraints of space and uniformity do not allow their contributions to be acknowledged here; however, a full list is included in Appendix I at the end of the text.

I particularly would like to thank Mr. and Mrs. C. Charles Adams, whose generous encouragement and constant friendship were at the foundation of the entire undertaking. It was largely due to their foresight, and the diplomatic courtesies of former Ambassador to Jamaica Mr. Summer Gerard and the Honourable Thomas Russell KBE, Governor of the Cayman Islands, that a pleasant working relationship with a foreign country was so favorably established. Without the assistance and support of the Honourable J. M. Bodden, executive member for Tourism, Aviation and Industry, and other members of the Executive Council of the Cayman Islands Government, field and archival portions of the research would not have been possible. I owe equal thanks to the late Brian Lauer, principal secretary for Agriculture and Natural Resources, to whom this thesis is dedicated, and to Dr. and Mrs. Marco Giglioli and the staff of the Mosquito Research and Control Unit in the Cayman Islands, all of whom graciously helped to integrate archaeology into the Islands.

Special appreciation is directed to my professors and graduate committee members at Texas A&M University. I wish to thank Dr. George
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moral support during various phases of my graduate work. This thesis
is a reflection of their academic guidance and practical advice.

An archaeological project requires a myriad of talents and skills.
A successful field expedition demands the support and cooperation of its
crew members. Specific responsibilities for the various aspects of our
expedition to a remote island during the first season of the project
were distributed among the following individuals:

Kathryn Boeckman, household administrator, whose indefatigable
imagination produced a wonderful array of meals from an endless supply
of canned provisions; William Crow, marine surveyor, whose mastery of
mechanical skills prevented a complete standstill of operations on more
than one occasion; Alison Darroch, archaeology student, whose curiosity
and enthusiasm for underwater archaeology brought her from South Africa;
Hugh Dutton, volunteer, whose quiet penchant for plain, hard work soon
became legendary; Emily Graves, diving officer, whose dedication to
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in the success of the work; Charles Mazel, marine surveyor, whose forth-
right approach and electronic ingenuity insured positive results from
each endeavor; Michelle Scudder, volunteer, whose conscientious and
careful attention to detail helped to get the season underway; KC Smith,
photographer, whose untiring energy and zeal fueled the expedition from
start to finish; and Sheli Smith, cartographer, whose buoyant spirit and
precise pen were appropriately applied to each occasion.

The second season of field work was conducted by the following
team members:

Robert Adams, archaeologist, whose inexhaustible supply of ideas and energy carried the survey over miles of seabed in search of wreck-sites; Dennis Denton, diving officer, whose enthusiasm and good humor set an example of professional dedication to a new field of research; Patricia Gibson, household administrator, whose organizational skills and culinary style merited and received compliments islandwide, including from the Governor; Denise Hoyt, engineering surveyor, whose insistence on precision and accuracy insured the collection of solid data and reliable site plans; Steven Hoyt, archaeologist, whose quiet capability and calm purpose was a mainstay during the more difficult phases of field operations; Margaret Leshikar, archaeologist, whose vivacious nature and supportive spirit equalled the great amount of work she untiringly undertook; and KC Smith, photographer, whose determination to produce a photovisual record never wavered in the face of countless hours behind a camera and enlarger. The Cayman Islands Project owes its results to the unselfish efforts of these unique and talented people.

Financial assistance during the writing of this thesis was provided by the Institute of Nautical Archaeology, courtesy of the David C. Langworthy Foundation. Additional assistance was furnished by Sema Pulak, whose illustration of the Careening Place appears in the text; Sheli Smith, who drew the illustration of the olive jar from Little Cayman; and Denise Hoyt, whose site plans were reproduced for this thesis. All photographs were taken by KC Smith, with the exception of the matchlock musket detail, which was taken by Robert Adams. Assistance with various translations of Dutch and Spanish documents was
provided by Denise Lakey, John Muller and Thomas Oertling. Mr. Oertling also helped to draft the lines of the catboat Ajax. Denise Hoyt graciously spent numerous hours assisting in the drafting and reproduction of many of the illustrations in this thesis. Finally, I owe a great deal to the patience and unselfish support of my wife, KC, who did more than anyone to make it all possible.
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INTRODUCTION

The Cayman Islands are three small satellites of the Greater Antilles, located in a remote corner of the western Caribbean Sea. The Lesser Islands, Cayman Brac and Little Cayman, are situated approximately 125 miles northwest of Jamaica and 120 miles south of Cuba. Grand Cayman, separated from the Lesser Islands by 70 miles of open sea, is situated about 178 miles from Jamaica and 150 miles from the Isle of Pines, Cuba (Figure 1). Surrounded by deep water, the Cayman Islands are emerging projections of the Cayman Ridge, a continuation of the Cuban Sierra Maestra Range. This ridge runs parallel to the Cayman Trench, a deep ocean trough which includes the Oriente, Bartlett and Mysteriosa Deeps, each over 3,000 fathoms in depth.

The Islands consist of two distinct limestone formations. As described by Mately in 1926, the central core and elevated areas of each island are made up of Bluff Limestone, a fault-block of white Oligocene and Miocene strata. A younger formation, which Mately termed Ironshore Limestone, consists of calcareous deposits of coral reef, sand and marl, laid down in a low plateau surrounding the perimeter of the uplifted block. This littoral plane of hardened crust has been eroded constantly by rain and surf, producing what Mately described as "a

karstland in advanced stage of development."¹ Sharp pinnacles of rock that produce a metallic ring when struck contrast with crevices and cavities of hollowed solution features, giving the ironshore a barren and treacherous appearance.

It has been suggested that subsequent to the first uplifting the surface of the Bluff Limestone was planed flat by the sea, after which a second uplifting occurred that tilted the original fault-block slightly to the west.² An obvious example of this tilt is demonstrated by the geomorphic shape of Cayman Brac, which resembles a wedge when viewed in profile along its axis. The 12-mile long block comprising the backbone of the Island slopes gradually from a sheer cliff 140 feet high on the eastern end into the sea at the western end (Figure 2).

The flat top of this steep-sided bluff is nearly a mile wide and is distinguished by numerous caves and hardwood forests around the perimeter. Alleged to have been used by pirates to conceal their plunder,³ the caves mainly have served as hurricane shelters in the past. The forests gradually have been thinned out, the larger trees having been cut for shipbuilding purposes. The surface of the bluff traditionally has been utilized by islanders as a "provision ground," yielding plantains, cassava, sweet potatoes and yams on broken plots of cleared land. As the windwardmost of the Caymans, this prominent outcropping of rock in the ocean has supported generations of closely-knit seafaring people, who became known for their resilient and independant nature. The population of Cayman Brac has remained relatively stable for decades, numbering approximately 1,600 and representing the second most populated island of the Caymans.
Little Cayman, situated five miles to the lee of Cayman Brac, is the smaller of the two Lesser Islands (Figure 3). Stretching ten miles in length and, in some areas, less than a mile wide, Little Cayman is the lowest of the island group, averaging only 25 feet above sea level. Three small elevations—Weary Hill, Sparrowhawk Hill, and Salt Rocks—rise almost imperceptibly above the flat contour of the landform.

Unlike Cayman Brac, Little Cayman is almost entirely surrounded by coral reefs. A large shallow lagoon, South Hole Sound, predominates the southwestern coast of the Island. Sandy beaches and mangrove swamps border the lagoon along the shoreline. Nearby, a large pond supports an important and undisturbed seabird rookery. Inside the Sound, a small cay called Owen's Island separates the body of water into two parts. At one time, the cay may have been connected to the main island by a mangrove spit. According to local inhabitants, the force of the 1876 hurricane opened a narrow channel separating the two. Another lagoon, also enclosed by coral reefs, is located on the eastern tip of Little Cayman. Slightly deeper than South Hole Sound, this sound is divided by a large expanse of treacherous coral.

Although Little Cayman is presently the least populated of the Cayman Islands, with not more than a dozen permanent residents, seasonal fishing and cultivation traditionally have been carried out there by Brackers who crossed the deep channel separating the two islands in small boats. Today, cultivation on the Island generally is neglected, and the interior has become so impenetrable that the old farming trails now are overgrown with vegetation.

Grand Cayman is nearly 22 miles long and four miles wide at the broadest point (Figure 4). Over half of the land consists of low,
swampy terrain that drains into a large body of water called North Sound. Grand Cayman often is said to resemble a crab's claw in shape, with North Sound comprising the area between the claw's pincers. Encom-passing over 40 square miles of shallow, brackish water, the Sound is fringed by small creeks and coves. Access to the sea from North Sound is limited to natural breaks in the nearly continuous reefline that encloses the Sound along its northern border.

Another distinctive feature of the Island's topography is a long, natural beach of white coral sand extending along the western shore. Once hosting seasonal fleets of sea turtles that emerged from the water to lay their eggs at night, this beach also provided a convenient anchorage in the lee of the land, which otherwise is encircled by dangerous reefs.

Large areas of Grand Cayman in the past have supported a certain amount of subsistence agriculture, although farming has been a secondary pursuit to the traditional occupations of turtling and wrecking. Coconut trees, planted in measured tracts called "cocoanut walks," provided an important auxiliary export item in the 19th century until a disease known as "Lethal Yellowing" caused many of them to die out. Mining of guano for fertilizer was also briefly undertaken in the latter part of the century. Today, due to a lack of cultivation, Grand Cayman supports its growing population of native Caymanians, expatriate colonials, and immigrants with the massive importation of staple foods from abroad.
MARITIME GEOGRAPHY

As small remote landforms on the open sea, the Cayman Islands initially served as landmarks to passing navigators. They also came to represent way stations for mariners in need of sheltered waters in which to refit and repair their vessels. Although relatively barren and dry compared to other Caribbean islands, the Caymans became known among European seafarers in the West Indies as a marine oasis, offering victuals in the form of sea turtles and limited amounts of fresh water. However, because of their small size and low profile on the horizon, the Islands also were virtual traps for unwary sailors, whose ships came to grief along the coral-lined coasts. Eventually, the Cayman Islands were haphazardly settled by groups of individuals who existed on the marine frontier of the Caribbean colonies.

Prior to a discussion of these historical factors, each of which constitutes a vital part of the Caymanian heritage, a preliminary explanation of the relationship between the marine environment and the geographical configuration of the Islands should be explored. More than anything else, this relationship determined the patterning of human activities and the destiny of the Caymanian people.

The extreme insular situation of the Cayman Islands restricted early visitors to those whose primary occupation was the sea, and it eventually demanded that those who later settled the Islands also make their occupation primarily on the sea. Maritime geography not only defined the kinds of human endeavors that characterized the Caymans,
but also determined their specific locations on each island. Selection of suitable areas for habitation, trade, shipbuilding, pilotage and provisioning depended on several critical factors, such as protection from and access to the sea, availability of secure anchorages, navigable passages through reefs, and the proximity of fresh water to the shore-
line. The confines of human existence, particularly on remote islands such as these, hinge on the essential recognition of and appreciation for the marine environment and the ability to adapt and coordinate lifeways with the sea.

As is the case for mariners sailing on ships in the high seas, an acute awareness of the prevailing weather direction is a vital factor in the life systems of island inhabitants. In contrast with other islands such as the Bahamas, Turks and Caicos, Florida Keys, and those of southern Cuba, all of which are situated on shallow, gradually shelving banks, the Cayman Islands are surrounded by deep water on all sides. Consequently, each landform is directly exposed to the prevailing winds and currents of the open ocean—paramount elements in the immediate environment. Windward and leeward exposures each represented circumstances that dominated the establishment of basic enterprises, whether marine or terrestrial.

Throughout most of the year in the Cayman Islands, the prevailing winds are from the east-northeast or east-southeast. Ocean currents of the Caribbean Sea set along a westerly course in this region. Consequently, safe anchorage areas normally are found on the leeward side of each island, that is, the western or northwestern coasts. The Lesser Caymans, lying on a southwest-to-northeast diagonal to lines of latitude and longitude, offer extensive lee protection along most of
their northern shores. The Bight, Stakes Bay, and Scott Bay on Cayman Brac have seen the majority of maritime activities (see Figure 2). In these locations, the combination of sheltered water unfettered by coral reefs and open access between land and sea facilitated the establishment of small communities based on trade, fishing and shipbuilding. A large, anomalous cleft at the base of the limestone bluff near the Bight produces one of the most abundant sources of fresh water on the Brac. Rainfall percolating down through the top of the bluff emerges at this fracture and traditionally has been collected by islanders and passing mariners. Locally known as the Watering Place, a community dominated by a family of merchant traders and shipbuilders grew up around this water source.

The north coast of Little Cayman is characterized by similar locations sheltered from prevailing weather. Indentations along the shore, such as Bloody Bay and Anchorage Bay, offer calm, open roadsteads (see Figure 3). Likewise, two of the oldest known sources of fresh water are located in these areas. A limestone solution cavity situated inland from Bloody Bay was used seasonally as a well and was indicated as such by the designation "water" on Admiralty navigational charts.

Another well, unmarked on charts, recently was discovered several hundred yards from the beach near Jackson's Point on an overgrown trail leading into the interior of the Island. Archaeological sampling of the well and surrounding area produced cultural debris such as ceramic, tobacco pipe, and glass fragments, and buttons. Analysis of these materials suggests that the water source had been utilized for at least 200 years before it fell into disuse. The proximity of these two wells
to known anchorages points to the likelihood that they were visited by passing mariners to replenish shipboard water casks.

Although relatively unpopulated today compared to the other two islands, Little Cayman may not have always been so. Evidence of abandoned provision grounds lies buried in the thick bush of the northern coast. Old trails camouflaged by time lead to areas in the interior which are distinguished by clusters of rocks cleared for cultivation tracts. The difficulty of traversing the almost impenetrable jungle, however, effectively guards the mysteries of the past against all but the most determined and patient investigation.

Grand Cayman has an extensive lee shore along its western edge, which is well protected from the prevailing winds by the bulk of the Island. A broad bay, originally known as Long Bay (Figure 5), today is called West Bay. Characterized by placid water, white beaches and a gently sloping submarine terrain, the area was historically a natural and ideal anchorage for ships temporarily calling at the Island to collect turtles that came ashore at night to lay eggs on the sand. This venture was successful depending on the time of the year, although occasionally mariners such as William Dampier, who rode at anchor in Long Bay to search for provisions in 1675, arrived too late in the season to find the reptiles. Long Bay also offered the safest approach to Grand Cayman because it was easy to distinguish and was unobstructed by reefs. It was from this roadstead that the survivors of a ship carrying the 31st Regiment of Foot, wrecked on the east end of the Island in 1767, were rescued by the H.M.S. Adventure. Unwilling to anchor on the eastern side, the captain of the rescue frigate signaled to those on shore and ran down to the lee for a safer place to embark
the shipwrecked troops.  

Below Long Bay the shore is rocky but continues to be protected from the weather most of the time. A small and almost insignificant cove has become perhaps the most important geographical location in the Cayman Islands. On early charts of the Island, a village called Hogsties is shown in the area of what today is the busy hub of Georgetown, seat of government for the Crown Colony. Not surprisingly, the site is situated near another "Watering Place" which, like the one on Cayman Brac, was a source of potable water for islanders and passing ships. The combination of leeward shelter, good holding bottom and fresh water encouraged the area's development from a community of swineherds and fishermen to a harbor town, fortified by a small gun battery named Fort George. Few remnants of the stone fortification remain today, the guns having been removed long ago; however, the site is not forgotten and figures prominently in the annual island celebration of "Pirate's Week," during which mock battles are fought and a character portraying the governor's wife is "captured" and "ransomed." The offshore anchorage of Georgetown today is the principal maritime access to the outside world, as demonstrated by the abundance of freighters, passenger ships and occasional pleasure boats moored outside the cove.

The prevailing weather changes during the winter months in the Islands. The wind shifts intermittently to the north and west, signaling the onset of a "nor'wester." Similar to the northerns that descend into the Gulf of Mexico during the winter months, nor'westers may last for several days, during which the normal anchorages become unsafe for small craft. Additional protection from the elements is sought in the lee of each island, usually along the southern coasts.
On Cayman Brac, a small lagoon enclosed by reefs is situated at the southwestern extremity of the land. Channel Bay, as the minute harbor is called, provides virtually the only protected haven for small vessels on Cayman Brac; all other locations are exposed to the vagaries of the weather. It has been suggested that the first settlement on the Brac was located at Channel Bay. When the first group of permanent colonists arrived in 1833, they allegedly found artifacts and cleared sections of land that suggested the region previously had been occupied and cultivated.  

Little Cayman affords a higher degree of security for small craft in both South Hole Sound and East Sound. Each has wide, navigable channels through the reef and enough room to accommodate numerous vessels at anchor. Again, the nucleus of population favored areas providing a haven from and an avenue to the sea. The Island's only extant community, Blossom Village, also called South Town, is situated inside South Hole Sound directly opposite the channel. Protected from the sea but with a wide view of the horizon, the village commands an optimum location for seafaring endeavors.

The eastern tip of Little Cayman is equally suitable for these purposes. Although uninhabited at present, the region known as Muddy Foots may have been the earliest site of seasonal occupation by fishermen. According to oral histories, the queer appellation of the location is said to be a corruption of "Modyford's," after Thomas Modyford, the governor of Jamaica who figured prominently during that island's privateering era. Historical documents suggest that Muddy Foots may have been the site of a turtling station destroyed by Spaniards in 1670. Archaeological verification, however, is hampered by extensive
alteration of the land due to hurricanes and coconut planting in the past.

Patterns of settlement adjacent to sheltered lagoons with access to the sea are most clearly demonstrated on Grand Cayman. Two of the oldest permanent communities, Prospect and Boddentown, are situated along the southern coast and are well protected by fringing reefs. Of the two, the site of Prospect appears to have been more carefully chosen as it is in the leeward bight of South Sound, affording a highly secure haven. This settlement also had a small fortification with gun emplacements overlooking the sea, although no visible remains, except a modern monument erected at the presumed location, exist today.\(^9\)

Boddentown, situated midway along the southern shore, appears to have been the oldest village of any size on Grand Cayman.\(^10\) Although its location was not as ideal as that of other communities, the small harbor formed by reefs could be approached through a narrow channel allowing the town to function as an early seaport. The channel was guarded by several cannon placed in an open area known as Gun Square. Natural limestone caves near the town allegedly were used for concealment by villagers during legendary attacks on the Island by pirates.

Another early community, known originally as Old Isaacs but today simply called East End, may have been occupied primarily for its windward situation. Located at the foot of a large shallow sound which protects the eastern extremity of Grand Cayman, the village commands a broad view of approaching weather and sea traffic. At least two navigable channels through the treacherous offshore reefline were available at the time the settlement was first occupied; a third has been widened artificially in recent years.\(^11\) Associated with pirate and wrecking
activities in the past, this region includes a particularly distinctive ironshore promontory named Gun Bluff, an appellation suggesting that there may have been fortifications erected near East End, although there is no evidence to support this contention.\footnote{12}

By far the most secure anchorage in the Cayman Islands is the wide expanse of North Sound on Grand Cayman. Protected on all sides, this large body of shallow water was recognized early by mariners as an ideal natural harbor for vessels in need of shelter or repair. It was in North Sound that Captain Francis Knighton sought refuge for his sloop-of-war \textit{Jamaica}, demasted and in danger of foundering during a storm in 1715.\footnote{13} Attempting to enter the main channel in order to anchor and refit his vessel with a new mast that would enable the ship to return to its windward base at Port Royal, the \textit{Jamaica} ran aground in heavy seas on the northern reefs and had to be abandoned.

Had he gained access to the calm water, Captain Knighton might have headed for the lower reaches of the Sound, where a small, protected cove provided the conditions he needed to repair his sloop. This special spot, situated between two mangrove islets, became known as the Careening Place due to its suitability for hauling over small vessels in order to clean and refit their hulls (Figure 6). Additionally, an adjacent cove called Duck Pond became a convenient natural pen for live turtles. Enclosed by a submarine fence, captured turtles brought to the Island were left to feed on the beds of underwater grass until it was time for them to be marketed.

Archaeological test excavations at the Careening Place in 1980 revealed a myriad of nautical implements and artifacts interspersed among numerous layers of discarded ballast stones left by countless
Figure 6: Gauld's original survey map
ships that underwent this essential operation. Marine hardware, such as copper sheathing and patches, deck and hull fittings, pulley blocks and cable, and innumerable planking nails, sheathing tacks and other fastenings were found (Figure 7). Fragments of deck lanterns, oil lamps, rusted tools and countless spirit bottles and jugs testified to the industrious nature of the undertakings that occurred at this single location. Analysis of materials recovered from three two-meter square test grids tentatively dated usage of the Careening Place from the first half of the 18th century until the first half of the present century. Association of the site with past turtling activities was indicated by over 200 bone samples from three gridded squares, as well as pork, beef

Figure 7: Fasteners and copper sheathing from the Careening Place
and fish remains.

The geographical setting of the Careening Place, coupled with archaeological interpretation, allow a reconstruction of what must have been a common Caymanian scene in the past (Figure 8). Returning from a turtling voyage with a large catch, fishermen rounded the northern tip of Grand Cayman and entered the broad sound under sail. The schooner coasted toward the mangrove-lined recesses of the vast lagoon, and her crew lowered sails, glad to be home. The turtling boats were hove overboard, and one-by-one the live reptiles were hoisted into the smaller craft, taken to the pen at Duck Pond, and released. Before another voyage began, the schooner was towed between two small islets separated by a deep cut and tied alongside a steep mangrove bank. Sectioned trunks of thatch palm trees were placed under the hull to serve as fenders, and the vessel was hauled over with heavy tackles secured to the masts. A certain amount of ballast had to be removed during the operation to lighten the ship and to facilitate cleaning the interior of the hull. The stones were dumped overboard on the landward side, over the years creating an artificial slope which aided subsequent careening endeavors. As the outboard area of the hull was exposed, the crew commenced scraping and breaming the fouled planks, repairing rotten timbers or refastening loose sheathing. The careening process normally took several days, during which the crew fed on part of the salted catch and drank whatever spirits were available. Trash, worn-out equipment, broken tools and utensils were discarded overboard in a general attempt to clean up the ship before the next voyage. When the operation was completed, the schooner was reballasted, towed into open water, and sailed to a convenient anchorage to take on crew and provisions for sea.
Figure 8: The Caroening Place
Figure 8: The Carousing Place
Under particularly severe weather conditions, North Sound was and still is the haven most frequently resorted to by small island craft and those that happen to be in the vicinity of the Islands. Ultimate safety of course cannot be insured, and the Caymanian people have learned from centuries of dwelling on the sea that their islands have never been really independent of the marine realm. Indeed, the Caymans are located in the path of greatest hurricane frequency in the Caribbean. During the last two centuries, no fewer than 15 major tropical cyclones have struck the Cayman Islands. Others, such as Hurricane Allen in 1980, which was the strongest storm ever recorded in the West Indies, often have barely missed these minute points of land.

The dominant role of the ocean over the ultimate destiny of the Islands has been demonstrated numerous times during extreme marine conditions, and the lack of coastal elevation throughout the Islands makes them vulnerable to any increase in sea activity. The effects of a hurricane in 1751, for example, temporarily altered the topography of Grand Cayman. The following notation on a chart drawn by George Gauld in 1773 (see Figure 5) illustrates this factor clearly: "In a Remarkable Hurricane on Sep' 1751, the Sea made a Breach over the Island from Little Pedro Pt to the North Sound, the dotted line shews the bed it left." In effect, storm tides temporarily partitioned the land into separate sections at the lowest part of the Island. Today, the vulnerability of this region has been naively compounded by the addition of man-made canals dug for a housing development—a clear example of how the lessons of the past are ignored for the sake of expediency and profit.

Cayman Islanders have learned the hard way about their precarious
position in the sea and often have suffered the consequences of its fury. A memorial to the Queen of England, written in 1838 by the Custos, Magistrates and inhabitants of Grand Cayman, reflects the unavoidable corollary to an insular environment:

... we suffering from two violent hurricanes on the 28th of September and the 25th of October, have now to entreat the sympathy and charitable consideration of your Majesty's Government. By these visitations St. George's Church ... has been blown down, the other seriously injured; upwards of 100 dwellings have been totally destroyed, and not a single one has entirely escaped injury. Out of the 18 vessels belonging to the island and by which the inhabitants draw their principal means of support, 13 have been wrecked; every plantation and provision ground utterly destroyed; and unless Christian sympathy be awakened and Christian benevolence be extended many of the inhabitants will be involved in the deepest and bitterest distress ... 15

During the 1876 hurricane, all the vessels in the different coves and anchorages were either driven ashore or broken up. 16 In an attempt to avoid similar damage to island shipping during the onslaught of another hurricane in 1903, all of the Islands' schooners, except one which broke her moorings and disappeared, put to sea as the storm grew in intensity. Only two returned after the hurricane; the remainder were never heard of again. 17

The great hurricane of 1932 is still discussed by elderly island residents. Smashing into Cayman Brac late in the season during November, the storm caused a substantial loss of life and almost totally obliterated every structure on the small island. As tides of over 20 feet high swept the coastline, islanders—mostly women and children, the men being away at sea—retreated into caves high on the bluff. During the calm as the eye of the storm passed overhead, they mistakenly ventured out, assuming the hurricane had ceased. Many perished as the tempest resumed intensity from the opposite direction and struck the
populated north coast.

Central to a discussion of the cultural effects of maritime geography in the Cayman Islands is the toponymy of various areas and the manner in which it reflects specific nautical activities. The Watering Place and Anchorage Bay, mentioned above, are obvious examples of place-names which explain their significance in everyday island life. Other, less transparent examples include the areas called Spotts on Grand Cayman and Spot Bay on Cayman Brac. Not only were these two locations good landing spots, but they also could be readily identified by sailors at sea because their sandy beaches appeared as white spots on the coastline.

A section of the northern shore of Grand Cayman called Bowse Bluff has an equally interesting etymology. The word "bowse" is an archaic form of "bouse," which means "to haul by means of a tackle." This area was another landing place, but lacking a sandy beach, boats had to be hauled ashore over the rocks. Similarly, there is the curiously named Pull-and-be-Damned Point near the entrance to South Sound on Grand Cayman. Even today, tacking under sail against the wind and current past this point remains difficult due to the narrow channel, although the aid of an outboard engine guarantees access into the Sound. In the days before motorized propulsion, the continuous outflowing water from the channel entrance must have exhausted all but the most robust oarsmen who sought to gain refuge in the Sound.

An analogous place-name is that given to the open water channel between the two Lesser Islands, which locally is called The Bogue. The term probably is derived from the Spanish verb, bogar (to row), but its English meaning is "to edge to leeward." This procedure is precisely
the necessary maneuver required to complete a safe passage from Cayman Brac to Little Cayman, given the often heavy seas and swift currents of the channel. According to local inhabitants, conditions in The Bogue sometimes create a small maelstrom, or whirlpool, during certain weatherly periods. However, there has been no scientific documentation to support this claim.

Other place-names are more obvious, such as Anchor's Point on Grand Cayman, or the Moorings and Cat Head Bay on Cayman Brac. Each was familiar to local pilots as a convenient temporary anchorage. Additionally, each of the Cayman Islands has a Crawl Bay, where captured turtles were confined in pens, or "crawls," built in the shallow waters of lagoons. Today, a commercial turtle farm breeds and raises sea turtles in cement tanks that are artificially flushed; the turtle crawls that once occupied a principal place in Caymanian economic life have vanished. Fragmentary remains of one early crawl, however, were discovered partially buried under the beach of South Hole Sound, Little Cayman, during archaeological survey. No traces of any similar structures were found in the various Crawl Bays.

To a large extent, the Cayman Islanders have their own designations for coastal features. Lagoons, for example, are called sounds, although they are not really passages of water separating two larger bodies of water or broad inlets of the ocean. However, it is precisely this usage of the term that reflects the Caymanian perspective of the lagoon as a passage to the open sea. Some sounds, especially North Sound, could actually be called bays, but in the Cayman Islands any indentation of the shoreline, however slight, is called a bay. In fact, there are at least 44 bays in the three small islands, some of which
are hardly distinguishable from the rest of the coastline. In some areas, small rocky coves, most only large enough for a boat, are called "barcaderes," perhaps a derivation of embarcadero, the Spanish word for a wharf or quai.\footnote{21} Often located along exposed sections of the coast, barcaderes usually are equipped with davits or derricks set into the rock for loading small cargos or lifting boats from the water.

Historically, the Cayman Islands as a whole have undergone an equally interesting evolution in toponymy. First dubbed Las Tortugas (Spanish: turtles) by their discoverer, Christopher Columbus, the island group assumed a variety of names and spellings in accounts of voyages, correspondence, and on maps and charts of the region until finally recognized by the name they are known by today.

The Columbian association of the Islands with sea turtles, certainly the most distinctive and prevalent creatures characterizing Cayman's early history, curiously ceased to be reflected in name within about three decades. The exceptions to this were Munster's map of 1532, on which they were labelled Ins. Tor(t)ecarum, and a later copy in 1582, on which they were identified as Tortues In.\footnote{22} Instead, the title Lagartos (Spanish: lizards) was given to the Cayman Islands, appearing first on the Turin map of 1523,\footnote{23} and later in the cartographic works of Diego Ribero (1527)\footnote{24} and Thomas Porcacchi da Castiglione (1576).\footnote{25} Whether this appellation was derived from the once-extant crocodilians (perhaps Crocodilus acutus Cuvier) that roamed the beaches or from the smaller iguanas (Cyclura macleayi caymanensis) still found today in the Lesser Islands is not clear.\footnote{26} However, ultimately, it was the Spanish word caimán (alligator or crocodile) which led to the establishment of the present designation of the Cayman Islands.\footnote{27}
First depicted as "Caymanes" on the Wolfenbüttel chart of 1527 or 1530, the island group was variously referred to as "Canuanas" by Sebastian Cabot in his 1544 map; "Chimanes" by the English captain William Jackson, who described the Islands in 1643; "Caimanos" by the Governor of Jamaica, Thomas Lynch, in 1672; "Caymanes" by the physician Hans Sloane, who wrote about his experiences in Jamaica in 1707; and "The Caymanas" by the historian Edward Long in 1774. As late as 1822, Sir Walter Scott, in a novel entitled *The Pirate*, mentions "Grand Caimains." French, Spanish and Dutch sources reflect equally diverse spellings of the name. Occasionally, distortions of the root word *caimán* turn up in documents from the early colonial period. A notable example is the corruption "The Key of Manus," which appears in a diary of the English conquest of Jamaica in 1655. This term may have enjoyed usage among the new residents of that island for several years, as the Caymans are similarly referred to as "Kiemanus" by the Governor in 1661.

While knowledge of the toponymic evolution of the Cayman Islands from the worldwide vantage is of interest, the study of place-names as they reflect the cultural perspectives of the Caymanian people is but a preliminary and partial approach to the broader explanation of the maritime heritage of the Islands. In fact, a full investigation of this particular toponymy and its ultimate ramifications would involve factors which are tangential to this thesis. However, the seaward outlook of these island inhabitants will always be mirrored in their geographical cognomination. Indeed, this reality becomes apparent as a glance at the topographical maps of the Islands reveals more than twice as many designations for marine areas than for terrestrial.
TURTLING

Among West Indian cultures, the inhabitants of the Cayman Islands are a uniquely seafaring race. While the majority of Caribbean fishermen rarely venture out of sight of land (with the exception of the whalers of Bequia in the Windward Islands), Caymanians have always been distinctly renowned for long-ranged nautical pursuits. Thus, the evolution of the Caymanian culture contrasts sharply with that of other island peoples.

This difference initially can be explained by the relatively limited, barren and dry geography of the three remote Islands. Overlooked during the profit-motivated settlement of most of the Caribbean regions, the Caymans were excluded from mining, stockraising, or plantation lifestyles due to a lack of the terrestrial resources abundant in other areas. A natural but necessary seaward perspective instead provided inhabitants of the Cayman Islands with a primary subsistence base. Consequently, unlike neighboring islanders who remained tied to the land even in post-slavery times and who viewed their coastlines as boundaries or barriers, Caymanians have always depended on the sea as a resource and an avenue of survival. The official motto displayed on the flag of the Cayman Islands, "He hath founded it upon the seas," states quite unequivocally the nature of their inherited destiny (Figure 9).

Another glance at the flag reveals the prominent figure of a sea turtle, a feature inextricably bound to the heritage of the Islands and a factor that became the predominant thread in the cultural fabric of
Figure 9: Coat of arms of the Cayman Islands

their inhabitants. From the moment of their recorded discovery, the Islands were recognized for their abundance of marine turtles. During their fourth voyage to America, Christopher Columbus and his crew passed between the Lesser Caymans in May 1503 and accidentally discovered what was to become the New World’s largest sea turtle fishery. Ferdinand Columbus, who accompanied his father on the voyage, noted the marine reptiles, claiming that "all the sea was so full of them that they looked like little rocks."² The Admiral imparted the name Las Tortugas to the Islands, although he probably did not realize that he was
witnessing the start of a yearly gathering of the creatures to breed or to lay eggs.

Subsequent mariners sailing past the Cayman Islands apparently did so during the winter months when turtles were not so prevalent. Their attentions instead were drawn to other reptiles, such as crocodiles or iguanas, which probably accounted for the variance in early names for the Islands: Lagartos or Caymanes, as discussed in the previous section. Francis Drake may have been one of these visitors, allegedly reaching the Caymans early in 1586 after sacking Santo Domingo. An account relates that his ships "passed by the islands of Caymanas, which are not inhabited. There are on the island great serpents called Caymanas like large lizards, which are edible." Whether Drake and his men landed for provisions, as the reference might suggest, remains unclear, but had they observed sea turtles, mention almost certainly would have been made of these unfamiliar animals.

Among the various species of marine turtles, the green (Chelonia mydas) historically has been an important food source for men in tropical latitudes, and thus it became a major natural factor in the colonization of the Caribbean. The hawksbill turtle (Eretmochelys imbricata) has been prized for its shell since Roman times, but usually was not eaten by Europeans. The loggerhead (Caretta sp.), leatherback (Dermochelys sp.), and ridley (Lepidochelys sp.) generally have not been eaten at all. The green is usually the largest of the species; a mature female averages 250 pounds in weight. It is the nonconformist among sea turtles, being herbivorous rather than carnivorous like the others. Feeding on the ubiquitous Zostera thallasia, commonly called "turtle grass" (or as one researcher described it, "a kind of plant that spread
continually over great areas and recognized no seasons in underwater climate"⁵), green turtles supplement their primary diet with a small species of jellyfish (Linuche sp.) called "sea thimbles." This may explain the turtle's curious habit of closing its eyes while biting and chewing.

The remote and undisturbed coasts of the Cayman Islands were ideal nesting beaches for the free-swimming reptiles. An 18th-century historian, Edward Long, observed that the "shore of the Caymanas, being very low and sandy, is perfectly well adapted to receive and hatch their eggs; and the rich submarine pastures around the larger islands afford a sufficient plenty of nourishing herbage, to repair the waste they have necessarily undergone."⁶ Long believed the turtles found in the Caymanas came from the Gulf of Honduras. Navigator and writer William Dampier took for granted that they came from the nearby cays of southern Cuba.⁷ Regardless of their migratory origin, the creatures congregated in abundance in the Islands during the months of May to October—so much so that it was claimed that "vessels, which have lost their latitude in hazy weather, have steered entirely by the noise these creatures make in swimming, to attain the Caymana isles."⁸

Subsequent to their discovery, the Cayman Islands were ignored by the Spanish colonization scheme in the West Indies. The absence of precious metals, native aborigines, and arable land caused the Islands to be viewed as insignificant or, in the words of Captain Don Juan Tirri: "Its diminutive size, in comparison with the vast territories which ever since the age of discoveries have claimed the attention of our Government, doubtless explains why it has been entirely neglected. In fact so far as its productive value is concerned it does not merit
the slightest attention." Located on charts of the region but never permanently settled by the Spaniards, the island group instead served the annual flota system as a landmark along the route to Vera Cruz from Spain.  

Although they apparently did not utilize the Cayman Islands as a food resource, Spaniards recognized the protein value of sea turtles. Archaeological investigations of the early 16th-century pearl fishing colony of Nueva Cadiz, located on the island of Cubagua off the coast of Venezuela, produced numerous turtle bones among other food remains in many of the excavated trenches. It is not clear whether turtle was eaten regularly by the Spaniards or whether it was reserved as part of the staple diet of slave divers brought from South America, the Bahamas and Africa. Certainly the colonizers of Cuba became familiar with the sea turtles and may have been shown how to catch them by indigenous Indian fishermen. An account of a Dutch reconnaissance mission into the harbor of Havana in 1628 described the discovery of small boats laden with hides, fish and turtle, which subsequently were seized by the fleet of Pieter Adriaensz Ita. Thomas Gage, an English Jesuit who traveled in disguise to Spanish America from 1625 to 1637, noted that mariners and passengers in the convoy system were provided with turtle meat to augment their shipboard diets. On his arrival to the West Indies aboard a ship from Spain, Gage recounted:

We fed the first week almost upon nothing but tortoise; which seemed likewise to us, that had never before seen it, one of the sea monsters... Our Spaniards made with them an excellent broth with all sorts of spices. The meat seemed rather flesh than sea fish, which being corned with salt, and hung up two or three days in the air, tasted like veal.

Similarly, Gage observed that ships departing from Havana on the homeward
voyage to Spain commonly were provisioned with dried and salted turtle meat.\textsuperscript{14}

However, the Spaniards seem to have had mixed feelings about turtles as a primary West Indian dish. Indeed, Spanish friars arriving in the New World had misgivings about eating turtle on Friday because the flesh looked and tasted like veal.\textsuperscript{15} Many colonials appear to have avoided the meat entirely. William Dampier's somewhat biased English reasoning on the topic provides an amusing insight into contemporary cultural opinions:

The Reason that is commonly given in the West-Indies for the Spaniards not caring to eat of them [turtles], is the Fear they have lest, being usually foul-bodied, and many of them pox'd (lying as they do, so promiscuously with their Negrines and other She-Slaves) they should break out loathsomely like Lepers; which this sort of Food, 'tis said, does much encline men to do, searching the Body, and driving out any such gross Humours \ldots \textsuperscript{16}

It is perhaps not surprising then that the Spaniards failed to recognize the real resource of the Cayman Islands. In fact, it was their European neighbors, the English, Dutch and French—early interlopers in Spain's overseas empire—who first realized the great turtle fishery and made use of it. The English captain William King, who cruised the West Indies in 1592, was the first to record the taking of turtles in the Cayman Islands: "\ldots we found no people, but a good river of fresh water [?]; and there turned up threescore great tortoises; and of them we tooke our choice, to wit, fifteen of the females, which are the best and fullest of egges, whereof two served an hundred men a day."\textsuperscript{17}

In the days before refrigeration, mariners normally fed on salted or pickled beef or pork flesh, which often was rotten before a voyage was completed. The sea turtle offered the prospect of fresh meat daily because the reptile could be kept alive aboard ship for weeks without
difficulty. According to the 18th-century historian Oldmixon, "... they may be kept out of the water twenty days or more, yet they will be so fat as to be fitting meat, provided about half a pint of salt water is given them every day."

The Dutch soon recognized the value of fresh turtle meat at sea, stopping at the Cayman Islands on several occasions during the early 17th century while en route to Cuba, where Dutch West India ships gathered to harass the Spaniards. The fleet of Commander Pieter Schouten anchored briefly at Little Cayman in 1624 to procure turtles. Two years later, the ships of Boudewijn Hendricksz, cruising from Jamaica for the Yucatan Strait, anchored overnight along the west end of Grand Cayman, where Dutch sailors found "many turtles and crocodiles, from which the name of these islands comes." A year later, during the height of the breeding season, West Indiamen again reached Little Cayman and took advantage of the fact that "there were at night many turtles eager for the land, [as] it was the right time for them to lay their eggs on the beach." In 1630, ships of Dirk Ruyters and Pieter Adriaensz Ita approached the Caymans in June intending to take turtles, as was becoming a common practice for Dutch fleets. The Phoenix, Otter, and an unnamed frigate, sailing in the vanguard of the fleet, were dispatched to the Lesser Islands to turn turtle at night.

By this time the Dutch appear to have become quite familiar with the Lesser Cayman Islands, each of which was crudely described in what amounts to the first recorded sailing directions pertaining to this island group. Turtles were specifically observed coming ashore "mostly on the westernmost island (Little Cayman), so that men can often come by one or two thousand, and some so large that 20 or 30 men have enough
to eat; they taste like calf flesh." Dutch ships continued to frequent the Caymans, arriving on one occasion in 1653 to discover a group of marooned French women and children from the island of Tortuga. Part of Le Vasseur's colony that had fled Tortuga during a Spanish attack, the unfortunate group was abandoned in the Cayman Islands when shipboard provisions ran low. According to the French historian Du Tertre, the women and children certainly would have perished had they not been rescued by the Dutch.

The French were among the first to distinguish the various species of West Indian marine turtles and to enumerate the useful properties of each. They, too, frequented the Cayman Islands on a seasonal basis to capture turtles and sometimes crocodiles. By the mid-17th century, the French were spending six weeks or more during the turtling season turning, butchering and salting their catch at the Cayman Islands. The fishery proved to be an ideal food source for the growing numbers of colonists arriving in the French West Indies.

Translation of an obscure Spanish document suggests that the French established an early settlement in the Cayman Islands during the middle of the 17th century. A transcription of the interrogation of several Frenchmen captured by the Spaniards and brought to Cartagena includes the testimony of Jean Pixon, a 25-year-old sailor. Upon being questioned by the Governor's men, Pixon declared that he had been sent from Paris to the Cayman Islands, where he lived in a French village for four years before going to Tortuga. While it is not clear on which of the Islands he settled, further archival or archaeological research might clarify the French presence in the Caymans during this formative period.
That the Cayman Islands increasingly were utilized by English, Dutch and French vessels to obtain turtles is specifically noted in an account by Captain William Jackson of his privateering activities among the Spanish American colonies in 1642.28 However, among the European mariners, it was the English who ultimately took over the Cayman turtle fishery for their own. With the somewhat slipshod invasion of Spanish Jamaica by the forces of Cromwellian England in 1655, Anglo domination of the nearby Cayman Islands began. When occupational troops quickly exhausted local food supplies by the indiscriminate slaughter of livestock along the southern coast of the island, they were forced to follow the French example by turning toward the Cayman Islands for provisions. Within weeks after the May 11th attack on Jamaica, the ships Arms of Holland, Falmouth and Dove were dispatched to the Caymans to collect turtle meat for the famished soldiers. They apparently met up with French ships gathered for the start of the turtle migration and brought a good supply of meat back to Jamaica.29 A few weeks later, they were sent back to the Islands, but the French had gone, and the English were left to gather the reptiles on their own.30

The extent to which the English conquerors depended on the turtle fishery in the Caymans to provide sustenance and to retain their hold on Jamaica during the first year of occupation is reflected prominently in historical records of the period. In July 1656, a Council of War resolved to purchase turtle meat from a private ship that had been in the Cayman Islands for that purpose.31 With over 2,700 hungry men to feed, Commander in Chief Colonel Edward D'Oyley issued a General Order to his troops:

Whereas there is a great scarcity of provisions at this time in ye
army and ye allowance given of turtle is very short, though as much as we can give, and yet notwithstanding some officers and most quartermasters of the army do make it less by carelessness in receaving and keeping the same, so that the allowance of ye turtle is much less than intended them and ye quartermasters do defraud them under color and pretense that it wasteth more than can well do, these are therefore to require all officers, especially quartermasters that they take special care in receaving and keeping ye turtle to be next receaved as they will give an account uppon oath what they receave and give, so that we may not want, whilst we have it not, here I expect a perfect performance as they will answer contrarywise at their utmost peril.32

Despite these strict measures, soldiers found their rations dwindling from 15 pounds of turtle and 15 pounds of "flower" for each man every three weeks at the beginning of August to only one pound of turtle, 12 pounds of flour, and one "pottle pease" (half-gallon of peas) at the end of the month. By October, the supply of turtle had been exhausted, and each man had to make do with 12 pounds of flour and three quarts of oatmeal, which further was reduced to 12 pounds of flour, one quart of peas, and one quart of oatmeal at the end of the month.33

Although the English found a convenient source of staple protein in the Cayman Islands, they had to learn from experience that the fishery was a seasonal phenomenon and that the source declined at the onset of autumn. The following year was no different, but turtle meat was still relied upon heavily to sustain not only the soldiers, but also the mariners who had joined the occupational forces in Jamaica. Lieutenant-General William Brayne wrote to the Treasurer of the Navy on August 8, 1657 that the "fleet and land forces being in imminent danger of starving for want of provisions, I was forced to agree with Captain James for as much salt turtle as his ship could bring."34

It became increasingly clear that the Cayman Islands had provided one of the basic sources of sustenance for the growing English strong-
hold in the Caribbean and would continue to do so in the future. The newly-appointed Governor of Jamaica, Thomas Windsor, was issued a series of instructions in 1662 by Whitehall, which included orders to take charge of the Cayman Islands:

And forasmuch as there are severall little Islands adjacent to the said Island of Jamaica, and belonging to the Territories thereof, as the Caimanes Islands, Salt Island, Goate Island, Pidgeon Island, and diverse others, although they be not particularly nominated in the Commission granted you for the Government of our said Island of Jamaica, which by the Planting and raising Fortifications upon them, may be of great concern and Advantage, towards the security and well setting of our Island of Jamaica.

These are therefore to authorize you to pass and consign the Lands belonging to these other Isles, or any of them, and any part or parts thereof to any person or persons by grant under our public Seal of Jamaica, according to the tenure and Custom of the rest of our Plantations in Jamaica, and also raise forts therein, as to yourself, by advice of the Council, shall deem necessary and expedient for the carrying on of our Interest and affairs in those parts. And in doing so you have hereby as full power, to all Intents and Purposes, as if the said Islands were particularly by name expressed to be continued under your Government, in the Commission and Letters Patent given to you by us for the Government of Jamaica aforesaid under our great Seal of England.35

Although there is no evidence that Governor Windsor implemented the fortification of the Cayman Islands on his arrival in Jamaica, turtlers from that island continued to fish in the Caymans, supplying the growing harbor town of Port Royal with provisions. A fishing station eventually was established on the island of Little Cayman, with at least twenty houses, under the command of a "governor" appointed by authorities in Jamaica. Very little specific information about this outpost or its administrator has survived; however, from English and Spanish documents, as well as preliminary archaeological fieldwork, a hypothesis offering insight into the early history of the island group and its role in broader West Indian events can be pieced together.

Charged with the security and successful colonization of newly-
won Jamaica, Thomas Modyford, a planter from Barbados who was appointed Governor in 1664, was faced with two options. Mitigation of the continuing threat of Spanish hostilities required either a strong local maritime defense network, not yet provided by the Crown, or peaceful trade relationships with Spanish American colonies. Overtures to establish mercantile ties were ignored or rebuffed by Spanish authorities who were responsible for upholding Spain's monopolistic trade policy with the Indies. Moreover, growing numbers of privateers had been gathering in Port Royal in the 1660s and threatened to move their base to the island of Tortuga and combine forces with the French, thus leaving Jamaica undefended and vulnerable to attack by Spaniards or buccaneers.

Modyford soon found himself treading a thin line between tacit approval of unauthorized privateering adventures and securing the English stronghold against invasion by the Spaniards. His subtle encouragement of the privateers in Port Royal resulted in raids against the Spaniards at Campeche, Grenada (Nicaragua), Old Providence (Isla Providencia), and Puerto Principe (Cuba). Intelligence reports of levies being collected in Cuba and Panama for an expedition against Jamaica and the arrival in the West Indies of the armada de barlovento prompted an attack on Puerto Bello by Henry Morgan in 1668 and the sacking of Maracaibo a year later. Confronted by the armada at the bottle-necked exit of Lake Maracaibo, Morgan ingeniously managed to escape, but learned that the fleet had intended to attack Jamaica and the Cayman Islands.

Morgan's seizure of Puerto Bello stirred Spain's Queen Regent to issue a royal cedula dated April 20, 1669, instructing the governors of Cuba, Panama and Columbia to grant reprisal commissions against the
English in Jamaica—a decree which amounted to a declaration of war in
the West Indies. Several commissions were issued to Captain Manuel
Rivero Pardal, a braggart and poet whose 14-gun frigate San Pedro y La
Fama, crewed by 96 men, captured the Jamaican vessel Mary and Jane and
killed her popular commander, Captain Bernard, in February 1670.
According to a survivor, purser Cornelius Carstens, Rivero boasted that
he had a commission valid for five years throughout the West Indies for
the "satisfaction" of the English attack on Puerto Bello. When news
of Bernard's death and the capture of his ship reached Port Royal, it
"so incensed the whole body of privateers," wrote Governor Modyford to
Lord Arlington in England, "that I hear they meditate revenge and have
appointed a general rendezvous at Caimanos next month, where I will
send to divert them or moderate their councils."  

Rivero, however, apparently arrived in the Cayman Islands before
the privateers. The deposition of Samuel Hutchinson, unfortunate cap-
tain of the ship Hopewell which had been stationed at the turtle fishery
on Little Cayman, provided an account of the first recorded battle in
the Cayman Islands (Figure 10). On April 14th, the Hopewell was at
anchor in Hudson's Hole (South Hole Sound) when four ships and a tartan
appeared off the Island and anchored up "within a Muskett Shott" of the
fringing reef. The mysterious vessels were flying English flags,
but to Hutchinson's surprise opened fire on his ship, which had no
colors showing. Hutchinson ordered his standard raised and fired a
return signal to leeward, upon which "ye Spaniards loared ye English
and hoisted ye Burgonia flagg" and commenced an attack. The shallow
draft tartan and several boats entered the Sound through the channel
but failed to board the Hopewell despite repeated attempts. Hutchinson's
Figure 10: Deposition of Captain Samuel Hutchinson concerning the raid on Little Cayman by Captain Manuel Rivero Pardal
ship, however, sustained damage to her rigging and hull.

At nightfall, the Spanish vessels decided to weigh anchor and sailed around the Island to create a diversion on the north coast while secretly landing some 200 men on the eastern point of the coastline in the middle of the night. They succeeded in destroying the fishing village and all of the small boats and canoes on the Island. Hutchinson and the "Governour of ye Caymanns," who was aboard the Hopewell when the attack occurred, both abandoned the ship after running her onto the reef and fled into the woods. After they relieved her of a cargo of salt, the Hopewell was refloated by the attackers and taken prize along with a ketch, three sloops, and 17 or 18 English prisoners.

Almost three months after this deceitful incident, authorities in Jamaica received the alarming news that Spanish raiding parties were landing on the north coast of the island, burning houses and taking prisoners. Several days later, the attacks were repeated on the southern coast. The identity of the marauders was soon learned when a piece of sailcloth was discovered nailed to a tree near to where the most recent raids had occurred. A handwritten challenge to Henry Morgan had been scrawled on the canvas, which was signed by Manuel Rivero Pardal, claiming responsibility for the attack on the Cayman Islands (Figure 11).44

The battle at Little Cayman may have been inevitable, given the hostilities that existed between the Spaniards and the English during this crucial period. Although the fishing station was comprised of only 20 houses, according to Rivero, it was protected by at least one armed ship, the Hopewell.45 However, the outpost was remote and vulnerable to attack by an organized squadron such as Rivero's. Moreover,
Captaine Manuell Riveros Pardo's Challenge

Captaines Manuell Riveros Pardo. To the
chiefe of the Squadron of Privaters in Jamaica.

I am he who this yeares haue done that which followes.

I went on sheare at Caymannes, and burnt Twenty
Mouses, and fought with Captaine Aye, and took from him
a Catch bason with Provisions, and a Curca.

And I am he who took Capt Baines, and did carry the
Prize to Cartagenas, and now am arrived to the East, and
have burnt it. And I came to seeke Generall Morgan, with
two Shipps of Twenty Cunnys, and having seen this, I stayed
he would come out upon the East, and seeke me, that he might
see the Valour of the Spaniards, And because I had no time,
I did not come to the Mouth of Port Royall, to speak by word
of Mouth, in the name of my King, whose God preserve

Dated the 5th of July 1670

Figure 11: Text of Manuel Rivero Pardal's challenge to Henry Morgan

the fishery may have been occupied only seasonally and the houses merely
huts built of thatch palm. The Governor of Cartagena, where the Hopewell
and the other prizes from Little Cayman were taken, claimed in a letter
to the King of Spain that Rivero had attacked and burned 50 houses.46

The report may have been an exaggeration designed to enhance the Govern-
ror's standing with the Crown, a not uncommon gesture in diplomatic
correspondence of this sort. Although Rivero himself wrote a brief
account of his corsairing expeditions in a stylistic and boastful poem,
he did not include any details about the English turtling station.47
Archaeological survey of the waters in South Hole Sound revealed several sites buried for centuries under the seabed which are thought to be associated with the conflagration that took place when Rivero's fleet arrived to show the fishermen "the valour of the Spaniards."

Discovery of the remains of two wrecksites, one of which will be discussed in the section dealing with turtling vessels, led to a careful and systematic magnetometry search which revealed over 40 magnetic anomalies under the sand and turtle grass covering the floor of the lagoon. Two important anomalies were localized in the vicinity of one of the wrecksites, the "Turtle Wreck," which is thought to be the remains of one of the vessels destroyed by Rivero in 1670. Test excavations of these two areas produced similar archaeological evidence of the conflict.

The first anomaly was determined to have been caused by an assortment of iron fastenings and encrusted metal objects. A circular test pit, nearly two meters in diameter, was excavated to a depth of one meter below the seabed, exposing ballast stones, turtle bones, and other objects resting on a layer of dead coral. Clay tobacco pipe fragments were found, some of which were decorated with rouletting and fleur-de-lis patterns. As with those recovered from the Turtle Wreck, measurements of the pipe stem diameters suggested a mid-17th century date for the materials. While small bits of wood and earthenware ceramic sherds were encountered among the ballast stones, no evidence of timbers or ship structure suggesting a distinctive wrecksite was found in the tested area.

The association of these materials with the battle in 1670 was further suggested by the discovery of a spent lead musket ball, flattened
by impact. Additionally, a length of encrusted cordage was recovered that consisted of two small strands of hemp cord wound loosely together. This object is thought to be a section of "slow match," commonly used to ignite firearms and heavy ordnance during the colonial period. A small cylinder of lead also was found. One end of the cylinder appeared to have been partially cut with a knife and then broken off, suggesting a lead plug that could be sectioned as needed, possibly for ammunition. Finally, a delicate brass sewing thimble was recovered during the test excavation (Figure 12). Fashioned from thin metal worked into a cross-hatched pattern, the thimble may have belonged in a sailor's sewing kit.

Located only about 25 meters apart, the tested anomaly and the

Figure 12: Brass sewing thimble recovered during test excavation on Little Cayman
Turtle Wreck produced culturally diagnostic materials, such as ceramics and pipe fragments, that closely compare with one another. Whether these two areas represent a single site that has been dispersed over a large area is uncertain due to the limited excavation of each.

The second localized anomaly to reveal evidence for the battle in South Hole Sound was discovered nearly 100 meters from the first anomaly. Magnetic readings centered over a thick bed of turtle grass, which presented stratigraphy that was difficult to penetrate during test excavation. Dense root structure and consolidated detritus were removed until the outline of an encrusted iron object appeared in a layer of silt and dark sand. Careful excavation revealed a long, thin, tubular shape, concreted with sand and shell. As the test pit was widened, the distinctive shape of a Spanish olive jar neck also was uncovered. The feature was excavated progressively until bedrock was reached. At this point, the iron object was identified as a gun barrel which had fallen onto the jar, causing it to break (Figure 13).

Both the barrel and jar were removed from context, and the test area was expanded to search for the remaining pieces of the jar. These were not found. However, an encrusted section of an iron barrel hoop and a ballast stone were discovered lying adjacent to the jar. Subsequent cleaning of the gun barrel revealed that it was from a matchlock musket, a common firearm of the 16th and 17th centuries (Figure 14). The associated olive jar, typical of the larger vessels of this type manufactured throughout the 17th century, was nearly three-quarters intact, allowing examination of its form and method of construction and also enabling detailed measurements to be obtained (Figure 15).

The materials recovered from the wrecksite of a small sailing
Figure 13: Olive jar and matchlock musket barrel in situ

Figure 14: Musket lock after cleaning
craft (discussed in a following section) and the nearby localized anomalies strongly suggest that the maritime remains of Little Cayman's disrupted turlting station have been discovered. Clues to this little-known episode, such as spent ammunition, a lost firearm, turtle bones, and charred ship's timbers, have characterized only part of the potential
explanation that further exploration of the seabed under this remote lagoon could provide.

Rivero's premeditated attack on the Cayman Islands and subsequent taunting of the authorities in Jamaica ultimately caused his own demise and opened renewed and unrestrained warfare against the Spaniards, resulting in the total destruction of the city of Panama at the hands of Morgan's privateers. Rivero and his men were discovered lying at anchor in a secluded harbor on the south coast of Cuba by John Morris, captain of the Dolphin. Although Rivero's frigate had the advantage of superior firepower, having on board "eight good guns, six petareos and a Good store of ammunition with Granadoes and stinch potts," Morris' men caused the Spaniards to panic, and Rivero was shot dead in the neck while attempting to prevent his men from fleeing.52 Taking the San Pedro y La Fama as a prize, Morris discovered among Rivero's papers three reprisal commissions (Figure 16), which were taken to Port Royal with the frigate and Spanish prisoners. Governor Modyford sent the commissions of "that same Vapouring Captain that so much annoyed Jamaica" to England as proof of the Spaniard's organized intentions, pointing out that Rivero had been "a person of great value amongst them and empowered to carry the royal standard at the maintop."53

Thus ended corsair Rivero's adventurous career, along with a unique chapter of West Indian rivalry in which the turtle fishery at the Cayman Islands played a central role in the struggle for power. The Treaty of Madrid, ratified late in 1670, proclaimed peace between the colonies of the two countries and revoked all reprisal commissions and licenses to take prize ships. More importantly, the agreement specified that the King of England was to "have, hold, keep and enjoy for ever,
with plenary right of sovereignty . . . all those lands, islands, colonies and places whatsoever situated in the West Indies, or in any part of America, which he and his subjects at present hold. Spain had at last recognized England's possession of Jamaica, the Cayman Islands, and other island satellites in a legally binding compromise.

Although the fishing station had been destroyed, the Cayman Islands still hosted groups of "divers soldiers, planters, privateers, and other late inhabitants of this island [Jamaica]," who were ordered to return to Jamaica in a proclamation issued by the new governor, Thomas Lynch. Either considering the Islands too remote for continued protection or the individuals inhabiting them too dangerous to leave alone, Lynch offered amnesty to those who would repatriate. It is not clear how many persons took advantage of the governor's offer, since the turtle trade still continued to ply between Jamaica and the Cayman Islands, expanding to the southern cays of Cuba. The persistent importance of this fishing pursuit is reflected in a report to the Council of Jamaica in 1687, in which the Attorney General explained that, were it not for turtling, "many of the inhabitants of Port Royal would not only want for employment and livelyhood, but that the small craft of the island would be laid up, and the men run away for want of honest employment, but the poorer sort of people starve and perish for want, turtle being the chief subsistence of the ordinary sort of people."

Hans Sloane, a physician and naturalist who visited Jamaica in the late 17th century, wrote that there were at least 40 sloops from Port Royal engaged in the turtle trade. He observed with some distain that the reptiles "infect the blood of those feeding on them, whence
their shirts are yellow, their skin and faces the same colour, and their shirts under the armpits stained prodigiously." A contemporaneous but opposite view was expressed by John Fryer, who claimed that turtle meat consumed in the East Indies "restores vigor to the body, giving it a grace and lustre as elegant as viper wine does consumptive persons and worn out prostitutes." Whether eaten fresh, boucaneed (grilled over an open fire), or dried and salted, turtle meat had assumed a vital niche as the staple fare of mariners, common people and slaves. Despite Sloane's unsavory remarks, it began to attract the palates of the higher class in the latter half of the century and was "esteemed the best and wholesomest Food in the Indies." While sailors had long considered the meat to be a cure for scurvy, landed gentry began to insist on it as a health potion. William Dampier noted that "many of our English Valetudinarians have gone from Jamaica (cho' there they have also turtle) to the I. Caimanes, at the Laying-time, to live wholly upon Turtle that then abound there; purposely to have their Bodies scour'd by this Food, and their Distempers driven out; and have been said to have found good Success in it."

Turtle eggs, either dug from the sand or collected from butchered females, were also a prized source of nourishment. Oil from turtle fat also was utilized, sometimes as a substitute for butter although more often as a lamp fuel or lubricant. An account of a ship stranded in Bermuda in 1594 described how the survivors used turtle oil to caulk their leaky vessel and continue a voyage to Newfoundland.

In the early 1700s land grants were issued by the authorities to individuals who sought to occupy the Cayman Islands on a permanent basis. Settlement occurred on the island of Grand Cayman, the Lesser
Islands being left uninhabited except for camps of seasonal fishermen. The smaller islands retained their reputation as a fishery by the French, who still came to take turtle. However, the Jamaicans continued to dominate the trade. A note of concern was expressed in a formal complaint to the Duke of Newcastle, written in 1738 by a Jamaican merchant:

By the 16th article of the treaty of 1686, the French have the liberty to fish for turtle at both the islands of Caimanas whilst by the 5th article the English are restrained from fishing on any French island etc. The English should have the same liberty of fishing for turtle on the south and west ends of St. Domingue [Haiti] and the French should be restrained from fishing at the Caimanas.62

By the latter half of the 18th century, the establishment of a distinct culture had taken place on Grand Cayman. Amounting to only "160 white men, women and children," the islanders elected their own governor and abided by regulations of their own choosing, ignoring those of Jamaica, such as a law enacted in 1711 which stated that "no person shall destroy any turtle-eggs upon any island or quays belonging to Jamaica."63 Limited cultivation in the center of the island provided enough corn and vegetables to feed the populace. Hogs and poultry brought from Jamaica were bred to augment the staple diet of turtle meat. Sugar cane was grown, but no mill had been established, and the cane was primarily used as hog fodder and in the distillation of crude spirits.

Turtling, however, remained the paramount occupation of the early Caymanian settlers, who took over the Jamaican trade by furnishing the meat of green turtles and the shell of the hawksbills directly to Jamaica, as well as supplying European-bound shipping which began to stop periodically at Grand Cayman to take on turtle meat. Thus the
first economic system in the Islands was a basic one derived from the sea, but dispersed externally. Turtles and turtle products were bartered to outside customers who in return supplied British wares and manufactured goods, such as clothing, tools, fishing apparatus, and other necessities. These were subsequently traded internally among Caymanian families for island-grown produce and local products.

As had the turtlers from Jamaica before them, Caymanians not only fished in their own waters but regularly sailed to the southern coast of Cuba to take turtles. In the latter half of the 18th century, the waters around the Cayman Islands began to become depleted of turtles, a result of overfishing and the use of nets to take reptiles of all sizes, including juveniles. By 1800, nine island vessels, between 20 and 30 tons burthen, were turtling exclusively off Cuba, returning to Grand Cayman with their catch to stock the Island crawls.64

However, as with the turtlers from Jamaica a century before, Caymanians were not welcomed by the Spaniards in Cuba, who viewed them with distain and sometimes hostility.65 A report on the Cayman Islands, written by Edward Corbet, who was sent by Governor Nugent of Jamaica to Grand Cayman in 1802, dealt largely with the local defense potential of the inhabitants. Corbet discovered that they "have not been annoyed from any quarter," in the war that had just terminated in 1802, "but in the war which preceeded it, it [Grand Cayman] was attacked by the Spaniards from Cuba and totally destroyed."66 The islanders had naturally become concerned with their own protection after this raid, and Corbet had been sent in response to Governor Nugent's concern over the French forces in the West Indies. Although the Cayman Islands were supposed to be under the protection of Jamaica, in reality, they were too
remote for Nugent's predecessors to concern themselves with. Yet, Corbet's visit to the Islands initiated a correspondence between the Governor and William Bodden, who was the chief magistrate of Grand Cayman. Bodden wrote to Nugent in 1805, requesting his advice should there be another invasion of the Island by Spaniards, "as there has lately been two privateers at Geo. Town, which attacked the fort there, and was expected to land at West-Bay to march against the place, but declined it."67

Tensions between Cuba and Grand Cayman were never formally resolved. In the 1830s, the turtling grounds on the south coast of Cuba began to deteriorate as had those in Caymanian waters. The serious depletion of a vital resource ordinarily might have caused a society to adjust its subsistence base and seek other sources of livelihood. However, the strong nautical tradition, ingrained in the Caymanian consciousness for over a century, prevailed. Turtlers of Grand Cayman simply shifted fishing operations to the distant coasts of Honduras, Nicaragua, Costa Rica, and especially the small offshore islands known as the Mosquito Cays, where turtles were, and still are, plentiful. The change in geography was apparently made with little hardship; the fishermen were accustomed to being away at sea during the turtling seasons. Furthermore, the basic pattern of trade from the Cayman Islands to Jamaica, and increasingly the United States, was little affected by the move from Cuba to Central America.

A subtle but lasting change, however, did take place in the economic and cultural systems within the Islands. The necessity for larger turtling vessels for the longer voyages to the Mosquito Cays brought about increased shipbuilding activity as the islanders responded by
constructing schooners and large sloops. However, the lack of a market system based on monetary exchange prevented most islanders from building their own craft with the exception of those few who had accumulated sufficient capital to afford them. While Thomas Young, who observed Caymanian fishing vessels off the Mosquito Coast in 1847, remarked that, "it has been known for . . . a century that the profits from turtling accrue to the middlemen in tremendous proportion," it was usually those merchants in Jamaica, England, or the United States who controlled the price of the market and grew wealthy from the trade. Although the turtlers from Cayman continued to operate on a bartering arrangement for their catch, an elite class of Caymanian merchants began to develop on Grand Cayman, as the system gradually shifted from external to internal economics. In 1909, a local Justice of the Peace, Edmund Parsons, described this exchange system as "a very pernicious custom," in that:

During the absence of the vessel on the Turtling Ground the wives and families of the crew draw on the owner (who in most cases keeps a store) goods such as rice, flour, salt beef and in many cases hats, ribbons, fancy dress fabrics, etc. the cost of which (together with the owner's profit) are debited against the man who is away turtling. On his return he receives his account which in many instances exceeds the value of his share [of the catch]. Thrift and any attempt on the man's part to keep his "head above water" are thus ruthlessly discouraged. In the turtling trade, as in most other insular industries, "truck" is the order of the day, the labourer gradually descends whilst the employer gradually ascends.69

Thus, the growing minority merchant class dealt in a monetary market with the outside world, while the turtling crewmen continued to operate in an internal exchange system, dependant on the former for livelihood.70

In the Lesser Caymans, the inhabitants gradually took up turtling away from the Islands as well. First permanently settled as late as 1833 by three families from Grand Cayman (the Fosters, Ritchies, and Scotts), Cayman Brac had remained extremely isolated, relying on trade.
from the larger island until 1850, when Brackers where able to build a boat of their own. Shipbuilding became a necessity on the Brac, and vessels were constructed to fish the southern banks of Serraña, Quíta Sueño, Seranilla, and Pedro. Brackers fished primarily for the hawks-bill turtle, preferring to trade in shell rather than meat. Soon, a class of wealthy merchants associated with shipbuilding and shopkeeping, similar to those on Grand Cayman, developed on the Brac and established a trend of marked contrast between the living standards and income of this small group and those of the seamen class—a distinction that remains apparent in the Islands today.

This change in Caymanian society was only one of the factors that heralded the ultimate decline in the turtling traditions of the Cayman Islands. At first, the turtlers had free access to the Mosquito Cays, but the question of sovereignty over the offshore territory was disputed between Great Britain and Nicaragua. The government of the latter country attempted to tax each turtle taken by Caymanian schooners, but allowed nesting beaches to be leased to the highest bidder with little or no control over practices in which females were taken before they had laid their eggs. Thus, a strain on the traditional fishing pursuit was produced by a dispute in turtling rights and the acceleration of a depletion of the resource.

Additionally, in the early years of this century, Caymanian seamen found that they could market their nautical skills directly for money. A gradual shift from turtling to professional merchant marine service took place, and by 1909, as many as 1,500 of the men out of a total population of approximately 5,000 Cayman Islanders were sailing on merchant vessels registered in the United States, Panama, and Spanish
Honduras.73 This new occupation, easily undertaken by a society well suited to make an adaptation in seafaring pursuits, brought hard cash into the hands of those who had been traditionally been confined to the exchange system described above. However, as Ulf Hannerz's study of Caymanian social structures has pointed out, while the cash accumulated by the seamen allowed a certain amount of capital to be built up as the sailors sent their wages home to the family, the system of local indebtedness to merchants continued, especially when the earnings were irregularly received.74 Nevertheless, the standard of living in the Cayman Islands gradually began to increase through the introduction of currency from the merchant marine, and Caymanian seafaring men broadened their once-insular perspectives. These factors contributed to a dwindling incentive to sail for the old turtleing grounds on the far horizon.

Between the years 1929 and 1939, the value of turtles per head dropped from an average of 40 shillings to 20 shillings. During the same years, the export of turtle shell declined by almost half, the value of each shell falling from an average of 26 shillings to 7 shillings, 6 pence.75 The depreciation of the latter reflected the gradual replacement of "tortoise shell" by synthetic products, such as plastics. By 1948, the price of shell had dropped to 6 shillings a pound, and the industry could no longer operate at a profit.76

Today, many Europeans, and most Americans, have never tasted the unique flavor of sea turtle. Turtle soup, if one can find it at all on the shelves of markets or in expensive restaurants, has ceased to capture the fancy of gourmets. Jewelry and eyeglasses made from the shell of this marine reptile are now uncommon relics found in antique shops. Indeed, the importation of all sea turtle products has been
banned by the United States in recent years, as the once ubiquitous reptile borders on the verge of extinction. No longer is turtle stew or corned turtle a staple West Indian dish; few islanders remember how best to capture and slaughter the reptiles, except perhaps the Cayman Islanders, many of whom grew up on a diet principally made up of protein from this animal source.
TURTLING METHODS

Europeans arriving in the New World found the sea turtle an unfamiliar and remarkable creature. Grazing among beds of sea grass and massing to converge on quiet, uninhabited beaches, the free-swimming reptiles were large, easy to spot, and abundant. Like the North American buffalo, the sea turtle was quickly recognized as an unexpected and novel source of fresh meat by people accustomed to a diet based on domesticated animals.

Even more curious to European explorers was the extraordinary Indian custom of capturing turtles with the aid of a fish, the remora (Echeneis remora). This practice was first observed by Christopher Columbus during his second voyage in 1494 among the islands of the Jardinella de la Reina on the south coast of Cuba. An account from his journal was published in 1501 by Peter Martyr and later translated into English:

Nowe shall you heare of a new kind of fishing. Like as wee with Greyhoundes doe hunt Hares in the playne fieldes, so doo they, as it were with a hunting fishe, take other fishes: this fishe was of shape or fourme unknown to us, but the body thereof not much unlike a greate yeele, having on the hinder parte of the head a very tough skinne, like unto a greate bagge or purse: this fishe is tyed by the side of the boate with a corde, let downe so farre into the water that the fish may lie close hid by the keele or bottom of the same, for shee may in no case abide the sight of the ayre. Thus when they espie any great fish, Tortoyse (where of there is a great abundance, bigger than great targettes) they let the corde at length, but when she feeleth herselfe loosed, she invadeth the fish or Tortoyse as swiftly as an arrowe, and where she hath fastened her hold, she casteth the purse of skinne, whereof we spake before, and by drawing the same together, so graspeth her pray, that no mans strength is sufficient to unloose the same, except by little and little drawing the lyne, she bee lifted somewhat above the brimme
of the water, for then, as soon as she seeth the brightnesse of the ayre, shee leteth goe her holde. The pray therefore beeing nowe drawn neare to the brimme of the water, there leapeth sodenly out of the boate into the sea, so many fishers as may suffice to hold fast the pray, untill the rest of the company have taken it into the boate. Which thing done, they loose so much of the corde, that the hunting fish may againe returne to her place within the water, whereby another corde, they let downe to her a peace of the pray, as we use to rewarde greyhoundes after they have killed their game. This fish they call Guaicanum, but our men call it Reuersum.¹

This unusual Arawak method of employing a semi-domesticated suckerfish as a fishing device has long interested naturalists, who recorded the practice in the Indian Ocean, South China Sea, and northern Australia.² It was observed as continuing in the waters of the Jardinella de la Reina as late as 1932.³

Early descriptions of natural fauna in the West Indies classed sea turtles with fish, although they were often compared with their more familiar terrestrial counterpart, the land tortoise. Indeed, when egg-bearing females came ashore at night they easily could be incapacitated by turning them over onto their backs (Figure 17). Spanish descriptions

Figure 17:
Turning turtle
of Oviedo y Valdes, published in 1526, mention this procedure, claiming that a long staff was required to overturn nesting turtles. It was further observed that turtles often were netted by the local fishermen of Cuba along with other fish, and that some were so large that six men had difficulty pulling one out of the sea.

While collecting turtles from beaches during their nocturnal migrations was extremely simple and profitable, European mariners found that they also could harpoon the swimming creatures from small boats (Figure 18). One method, adopted in Bermuda and elsewhere, involved the use of a bright fire carried aboard a fishing boat at night. Transfixed by the light, a turtle could be approached while still on the surface and lanced with an iron-tipped harpoon attached to a length of

Figure 18: Striking turtles
line. As in whaling, the animal was caught when it grew tired of swimming against the drag of the boat and its eager crew. The Indians of the Mosquito Coast of Central America were adept at harpooning turtles and were said to possess a knack for finding them. Dampier claimed that English privateering vessels, cruising the western Caribbean in the 17th century, normally employed Mosquito "strikers" to maintain a supply of fresh meat for the men on board, and that "when we careen our ships we choose commonly such places where there is plenty of turtle or manatee for these Mosquito men to strike." 6

A primitive attempt at ecological utilization of the sea turtle was practiced on the Mosquito Coast. Live turtles, probably hawksbills captured at sea or on the beach, were held down on the sand and dry brush placed over their carapaces. The brush was set on fire to loosen the shell plates, which were then removed from the carapace with a sharp knife or machete (Figure 19). This method of "shelling" live turtles often caused them to expire during the process; however, those that survived were released into the sea on the assumption that their shell would grow back again. 7

It is not clear how widespread this practice of shelling was; however, English turtlers supplying the crawls of Port Royal in the 17th century developed various methods of turning, striking and netting their catch to a remarkably skilled degree. Throughout the 18th and 19th centuries, the increasingly long-ranged pursuits of Caymanian turtlers were a culmination of these early methods, ultimately involving the highly specialized use of nets.

The fishermen of Grand Cayman traditionally hunted the green turtle at the Mosquito Cays off the coast of Nicaragua after other, more
familiar fisheries became exhausted. Turtling voyages normally were planned for two seasons, one from January to March and the other from July to September. Fleets of 15 to 20 schooners set sail from Grand Cayman for the fishing grounds and were gone approximately ten weeks. These vessels ordinarily carried three officers (a captain and two mates) and ten to 12 seamen. When the fishing grounds were reached after a voyage of several days, the schooner carefully sailed among the shoals, selecting coral outcroppings on the seabed that were likely to harbor sleeping turtles at night. Each spot was marked with a wooden float for later identification.
Before nightfall, the schooner anchored safely in the lee of the reefs, and the business of setting turtle nets commenced. The fishermen separated into three or more boat crews, each with an officer in charge. The boats were lowered into the water in the quiet hours of the evening and sailed to the marked fishing designations as the sun dipped low on the horizon and the turtles prepared to roost under the rocks. Each wooden float was quietly approached under oars, and a net was paid out from the stern of the boat over the selected coralhead.

Two sorts of nets were employed by the turtlers of Grand Cayman. The "swing net," normally ten to 13 fathoms in length, was anchored to the bottom at one end to allow it to swing with the current. The "long net" was anchored at both ends and was much larger, measuring either 4 x 12 or 8 x 30 fathoms. The nets were attached to a head rope buoyed with floats so that they hung parallel to the surface of the water. Sometimes a decoy, fashioned of wood in the shape of a turtle, also was attached. Initially made of thatch line and later of cotton thread, turtling nets typically were woven into ten-inch square mesh.

Between ten and 30 nets were set horizontally over coralheads each evening. As a sleeping turtle slowly rose to the surface to breathe during the night, it would strike the overhead net, struggle, and become entangled. By the break of dawn, the turtlers were back over their nets, pulling them into the boats. Hasten was necessary to prevent the struggling catch from being depleted by sharks, a sometimes unavoidable occurrence. The most difficult part of the entire voyage, the task of hauling an ensnared turtle aboard the small boat, was complicated by the size, weight, and clumsy thrashing of the entangled
reptile. Pulled over the gunwhale by its front flippers and positioned on its back in the bilge, each turtle was carefully disengaged from the net. To avoid excess commotion in the boat, the turtles were "spancel-led" by piercing and tying their flippers together with thatch rope, fore limb to opposite rear limb in a crisscrossed fashion.

Green turtles taken alive in the nets were returned to the water each day, but were confined in a crawl, under the supervision of a "crawl-minder," for the duration of the season or until a sufficient number, usually around 200, was obtained to warrant returning to Grand Cayman. Those taken dead or killed for meat were used by fishing crews to augment the meager ship's provisions, such as plantains or flour, which was made into "Johnny cakes." The penned turtles were fed turtle grass for the duration of their confinement.

When a sufficient number of turtles was netted, a "roundup" was undertaken; each turtle was wrestled from the water amid much commotion and loaded aboard ship for the return passage home. In Grand Cayman, the catch was crawled again until the turtles were sold, either live or butchered. In later years, turtles were taken by sea to Key West or Tampa, Florida, where they were marketed at the end of each season.

The traditional arrangement for division of the catch was quite similar to that used by whalers. The proceeds of the season were split in two parts, half given to the owner of the turtling schooner and half to the captain and crew. The latter half was divided into shares, the captain receiving one and three-quarters, the mate one and one-quarter, and the men one share apiece. 11

The turtlers of Cayman Brac traditionally have hunted the hawksbill turtle using specialized methods that are somewhat different from
those of their neighbors on Grand Cayman. Sought primarily for its shell, the hawksbill generally was caught by Brackers fishing on the offshore banks of Quita Sueño, Roncador, Serrana, Serranilla, Rosalind and Pedro, south of the Cayman Islands. Schooners and sloops of 50 to 60 tons, usually built on Cayman Brac, served as transport vessels for small fleets of boats. As many as ten boats could be carried on the deck of a 50-ton schooner, arranged on edge between the hatches and the wheelhouse. 12

The boats figured prominently in the hunt for turtles, each carrying two men and a single net. The "puller" manned the oars, propelling the boat toward a turtle spotted on the surface of the water. He was directed by the "trapper," who sat in the bow and followed the turtle's progress if it dived and swam away. A glass-bottomed bucket, or "water glass," was used by the trapper to look beneath the water and help guide the puller to maneuver the boat directly over the turtle. 13 A conically shaped "trap net," fashioned from six-inch mesh, was lowered quietly into the water. Weighted at the base by an iron ring five to seven feet in diameter, the net was open at the bottom and attached to a line at the top, which was controlled by the trapper so that the net could be dropped over the turtle at the appropriate moment. Once encompassed by the trap net, the turtle would attempt to rise, would become entangled, and then quickly would be pulled to the surface of the water and heaved into the boat. A coordinated pair of Brac turtlers, sighting a turtle floating on the ocean or lazily swimming underwater, could stalk their prey and drop a net over it with quiet and efficient ease.

As many as 60 boats were employed by Brackers during turtling
seasons in the past.\textsuperscript{14} Sometimes crews and boats would be left on the remote cays for several weeks, operating from land until the larger vessel returned for them. Occasionally, the schooners remained on station with a cook on board during the day, with the boats returning at nightfall with their catch. Most of the turtles were slaughtered soon after being netted, rather than being kept alive in a crawl.\textsuperscript{15} The meat was dried and salted or "corned" (pickled in brine).\textsuperscript{16} Unlike that of the green turtle, the meat of the hawksbill was not exported because it generally was not considered edible on the foreign market. The inhabitants of the Lesser Caymans, however, seem always to have favored the hawksbill's flesh as the best among the various species. Turtle eggs also were consumed by the islanders. "Red eggs" were dried, salted and stored in bags by the turtlers for the return home, where they were sold or distributed locally among friends and neighbors, along with the preserved meat. "White eggs," which did not keep, were boiled and eaten by the turtlers during the fishing season.\textsuperscript{17}

Hawksbill turtle shells were marketed primarily in Jamaica, where they were fashioned into decorative items or shipped directly to North America or Europe. As with the turtling pursuits of the seamen of Grand Cayman, the proceeds of the voyage, both shell and meat, were divided among the fishermen at the end of the voyage. In this case, the owner of the vessel received only one-third of the catch. The remainder was shared among the owner of the catboats and any partners, who played a more active role in the fishing.

Cayman Islanders no longer set sail on turtling voyages. Although there are many seamen who were raised out on the turtling grounds, they are the last of the generations of the turtlers; their offspring have
taken up pursuits more relevant to the modern world and which provide more income with less labor. Occasionally, one sees a turtle decoy bobbling lazily offshore in the waters around Cayman Brac, where turtles sometimes still are netted for local consumption. However, the once-busy crawl and slaughterhouses are either abandoned or non-existent. Visitors to the Islands still have the opportunity to taste turtle meat, however, prepared in the traditional island dishes from turtles bred in captivity at Grand Cayman's turtle farm. It is said that the farmed turtles lack the taste of those caught in the wild, and the once-staple provision of a sea-hardened people appears to be rapidly becoming relegated to a tourist novelty.
TURTLING VESSELS

During the 16th and 17th centuries, ships of exploration and trade usually were outfitted with small boats employed for a variety of uses. Either carried on deck or towed astern, these boats assisted in anchoring maneuvers, loading and unloading provisions, fetching fresh water from shore, coastal reconnaissance, and fishing. Small craft terminology of the period included vessels called skiffs, barks, shallops, long-boats, bateles and barcas, according to size and function. They normally were propelled by oars and various sailing rigs, depending on their characteristics and usage.

Mariners stopping at the Cayman Islands for turtles or fresh water during the early colonial period most likely dispatched ship's boats to enter shallow lagoons and land on shore. During the first recorded Dutch visit to the Caymans in 1624, Commander Pieter Schouten acquired provisions by sending a chaloupe ashore on the evening the Islands were first sighted to collect turtles on the beach. The next morning, as the ship lay at anchor on the northeast side of Little Cayman, the boat was hoisted on board with her catch.¹

Chaloupes, chalupas, or shallops were commonly mentioned in nautical descriptions of the early 17th century. The Mayflower's equipment, for example, included a shallop of a type which soon became widely used in the New England colonies for coastal fishing and trading.² William Baker's study of colonial vessels documents the transition of shallops as ship's boats brought from Europe to shallops as small
colonial-built fishing craft. 3 Somewhat lighter than a ship's long-boat, the shallop appears to have been a single-masted, double-ended, undecked boat. Baker's reconstruction of a Dutch chaloupe, circa 1650 (Figure 20), suggests that her dimensions were 26 feet in overall length, 8 feet 4 inches in breadth, and 3 feet 3 inches in depth. 4

Figure 20: Reconstruction of a Dutch chaloupe after Baker

Shallops built later in the colonies, on the other hand, seem to have been larger and were equipped with two masts and partial decking arrangements.

A similar transition in small craft occurred in Jamaica subsequent to the English invasion of 1655. When Admiral Penn's naval forces returned to England after taking part in the so-called Western Design, they left behind in Jamaica 12 frigates and a number of small craft to be used for gathering turtles at the Cayman Islands and other duties. 5 No doubt these smaller vessels, as well as the ship's boats, were found
to be ideal for turtling in shallow water.

Within a few years, construction of small fishing boats began in Jamaica. A proposal to acquire a plantation on the island for King Charles II in 1664 suggested that:

... ship's carpenters could be employed in felling and squaring timbers and building shallows for his Majesty's service. The plantation should be near a harbour, and three shallows would be needed, which could be employed to go aturtling and in carrying dispatches and provisions. ⁶

Such vessels may have been comparable in size to a shallop that was ordered to be built in 1667 to defend the Isle of Wight. She was to be "... in length 40 feet, 9 feet breadth, 3½ feet deep [and include] masts, yards, sails, rigging, a grapnel and rope and ten oars." ⁷

As the 17th century progressed, shallows gave way to small craft called sloops, which were mentioned with increasing frequency in West Indian contexts (Figures 21, 22). Although some confusion between shallows and early sloops exists today among nautical historians, Baker has suggested that, as the rig and decking of shallows expanded, they became known as "double shallows" and ultimately were called sloops. ⁸ The etymology of the term "sloop" is thought to be Dutch, but the design most likely was brought to the English colonies via New Netherlands or directly from England. ⁹

Although proper categorization of the vessel during this evolutionary juncture remains difficult, it is clear that sloops began to assume a major role in West Indian affairs due to the need for lightly-built, nimble sailing craft. The use of these vessels for turtling and other activities is reflected in the historical record soon after their appearance in Jamaica. Three such sloops were engaged at the turtle fishing station in the Cayman Islands when it was attacked by corsair
Figure 21:
Top and side perspective of a 17th-century English ship's sloop

Figure 22:
Bow and stern perspective of a 17th-century English ship's sloop
Rivero in 1670. At least five vessels of meager tonnage were designated as "slopes" in a list of English and French ships under the command of Henry Morgan prior to his raid on Panama in 1670. Nine sloops of between eight and 20 tons appeared among vessels registered at Port Royal as trading in "Campeachy Logwood" during the same year.

Turtling sloops from Jamaica soon began to range further afield, expanding their operations from the Cayman Islands to the southern cays of Cuba. However, the latter fishing ground was far from secure, as turtlers often ran into difficulties with indigenous Spaniards or Frenchmen who also fished there. The year 1684 was an especially tempestuous time for turtling because the Spaniards were guarding the southern shores with two oared galleys, each carrying 80 to 120 men, and seven "periagos," carrying 50 to 70 men. Within the space of a few months, two turtle sloops were captured by the Spaniards. Three others managed to escape imprisonment by repelling the assaults of a galley and periago, but six sloops were taken by armed French vessels, which also included two sloops.

Captain William Dampier, commenting in 1675 on "such villainies," corroborates the dangers of Cuban waters. His descriptions of the turtling and trading pursuits of Port Royal include vessels which he called "Jamaica sloops," raising the possibility of an emerging vessel type as opposed to simply sloops from Jamaica. To be sure, Jamaica, as an English stronghold in the Caribbean, became a center for the construction of small craft suitable to her growing maritime needs. An account of the island, written in 1676, cites:

... about 60 or 70 vessels belonging to the Island and wholly employed in fetching logwood and salt, turtling and striking manatee ... small vessels, built in the Island, pay[ing] no tonnage or
any duties...[It is] best to encourage them for they employ an abundance of men, bring trade, [and] prevent surprise.18

Baker has designated the Jamaica sloop as a distinctive vessel type for the West Indies, claiming that its evolution was adapted to the unpredictable and dangerous maritime period of the 17th century. He has suggested that the type was designed along "sharp-model" lines, built in Jamaica, and was notoriously fast, with:

... drag to the keel, considerable rise to the floor, raking ends, low freeboard, and raking mast. It had such a reputation for speed and weatherliness that orders for new sloops depleted the supplies of suitable timber on the island of Jamaica. Large numbers of the shipbuilders moved to Bermuda where the abundant growths of light red cedar proved eminently suitable for the continued building of their specialty, which then became known as the "Bermuda sloop."19

Although this description of the Jamaica sloop at first would appear appropriate for a typology of the craft, it seems to have been based on the characteristics of the Bermuda sloop of later times, as outlined by Chapelle, who saw the type as an antecedent to the Baltimore clipper.20 Whether Jamaican shipwrights actually moved to Bermuda or Bermudans adopted the Jamaican precedent (which is more likely), the Jamaica sloop remains vague as a distinct type. Virtually no contemporary plans or illustrations exist of such a vessel in the 17th century. Indeed, the only known set of lines for the Bermuda sloop was published as late as 1768.21 References to turtling sloops, such as those listed above, do not supply any details of construction or rigging. However, as typical small fishing boats, turtling sloops undoubtedly employed a minimal crew, retaining optimum space for a good catch. As Hans Sloane observed in 1707, ". . . it may be [that] four men in a Sloop may bring in thirty, forty or fifty turtles."22

During the archaeological survey of Little Cayman, the remains of
a small sailing vessel were located in the shallow waters of South Hole Sound (Figure 23). Outlines of timbers and ballast stones were visible along the edge of a low mound of turtle grass, which extended into a large depression in the sandy floor of the lagoon. Uneven bottom terrain and disarticulated frames and planks strewn around the periphery of the wreckage suggested that the site had experienced postdepositional disturbance despite its sheltered location inside the reef. Local fishermen confirmed this observation, recounting visits to the Island by treasure hunters in recent years. Close examination of the area revealed that only portions of the wrecksite had been excavated by the looters, and much of the ballast had been left in place.

In order to evaluate the site, exposed wooden components were dusted off and their principal dimensions recorded. An exploratory trench was excavated perpendicular to the long axis of the wreckage, near a grouping of associated frames at the northern extremity of the site. As digging commenced, evidence of fire damage to the upper surfaces of buried planking and frames immediately was apparent. Small bits of burned wood were encountered among the ballast stones, many of which displayed discoloration from heat and smoke. As the trench grew larger, countless turtle bones, some of which were charred around the edges, began to emerge from the sand. The deposit included a profusion of long bones, vertebral elements, pectoral girdle fragments, and carapace plates.

Although the depth of overburden was minimal, consisting of sand and shell over a layer of dead coral fragments covering the limestone bedrock, a compacted grass root structure had provided a protective mantle which retained preservation of buried remnants of the wrecked
vessel. Less than a meter below the seabed, the garboard strakes and keel at the lower extremity of the ship's hull were uncovered. A segment of hemp line and a worm-eaten pulley sheave were discovered beneath one of the planks (Figure 24). The bitter end of the line had been served (whipped) to prevent fraying, and close scrutiny revealed that the rope had been "cable-laid." This method of laying line is uncommon and consists of three "hawser-laid" (right-handed) strands twisted together in a left-handed direction. Cable-laid line was sometimes used in running rigging on a ship because it would not kink as it ran through the tackle. The association of the line with the pulley sheave indicates a clear example of this use.

Figure 24: Pulley sheave and cable-laid rope in situ
Careful recording of the "Turtle Wreck" produced plans and detailed photographs of its general arrangement and individual features. Although the site was quite small and only partially exposed on the seabed, over 70 photographic frames were required to produce a photomosaic, which aided in the formulation of a site plan. The size, shape and association of surviving timbers in relation to the amount of visible ballast enabled a preliminary evaluation of the original vessel to be pieced together: a small sailing ship, approximately 60 feet in length, solidly framed and fastened with iron, had been lost at Little Cayman. The craft's narrow beam and shallow draft had allowed her to enter the Sound with ease.

Like many large and small ships venturing into remote waters during colonial times, the vessel was armed. The discovery of a cannon carriage truck (wheel) during test excavation indicated that she was carrying at least one piece of heavy ordnance to protect her crew and cargo. 25

Although extensive investigation of the shipwreck was limited due to the scope of the survey, the few diagnostic artifacts encountered on the site yielded glimpses of the wreck's historical significance. Bits and pieces of evidence suggest a crew of simple, unrefined seamen engaged in turtling at the Island. Limited provisions for a small number of men during short voyages were stored aboard the ship in wooden barrels and earthenware jars. 26 The men smoked tobacco in clay pipes and ate fish, dried fruit, and probably turtle. 27 Cooking was occasionally done in a small fire box, perhaps situated on deck, where a cargo of live turtles was kept on their backs, flippers lashed together. 28
The ship appeared to have been destroyed by fire, due to the absence of upper hull remains and the charred condition of timbers that survived. Her demise can be placed tentatively in the mid-17th century by analysis of the clay smoking pipe and ceramic fragments. Although further excavation of the wreckage might provide particulars offering a fuller understanding of the historical context to which this vessel belonged, it is likely that the Turtle Wreck was among those craft destroyed during Manuel Rivero Pardal's raid on the fishery at Little Cayman. Aside from any historical association, the remains of this small ship, more than any other recorded site in the Cayman Islands or Jamaica, offer an example of the typical fishing craft of the 17th century as discussed above.

While European-designed vessels were being adapted for fishing and trade in the West Indies, the merits of indigenous, native-built canoes did not go unnoticed. Hollowed out from a single tree and expanded by gradual use of fire or boiling water, dugout canoes appear in descriptions of the Caribbean as early as the first voyage of Columbus. The Spaniards appear to have adopted the use of canoes early, along with other native products, but the relatively late establishment of Anglo control in the West Indies, by which time the Indian populations had disappeared, prevented the English from absorbing native customs in the islands.

Seventeenth-century Jamaican logwood cutters along the Central American coast, however, soon learned to appreciate the aboriginal canoe, traditionally used for river navigation and in the deeper waters of the Gulf of Honduras and the Bay of Campeche. Although the uses to which sloops were put had increased with their size and capabilities,
turtle fishing still required relatively small craft to approach the
nesting beaches or to set traps among the coral reefs. The canoe was
an ideal vessel for this purpose. The simplicity of design and practi-
cality of production made it inevitable that the dugout canoe would be
incorporated into the turtle fishery. Canoes were recorded as being
destroyed at the turtling station on Little Cayman in 1670\textsuperscript{32} and appear
to have been among the primary watercraft in the Cayman Islands soon
after they were permanently settled in the 18th century. The wrecked
crews of ten ships which ran aground simultaneously on Grand Cayman in
1794 were rescued by Island canoes.\textsuperscript{33} A schooner wrecked on the same
reef in 1845 was approached by a fleet of local canoes, the occupants
of which were eager to negotiate rescue and salvage.\textsuperscript{34}

It is not clear whether fishing canoes were built in the Cayman
Islands in the early settlement period. Certainly stands of hardwood
grew in specific areas on each island; however, their relatively small
size would have precluded the construction of large canoes like those
of Central America. As ties were established with the Bay Islands of
Honduras and the fishing grounds of the Mosquito Coast in the first
part of the 18th century, canoes were imported to the Cayman Islands.\textsuperscript{35}
Dugout canoes of Central America were of two types: the dorey and the
pitpan.\textsuperscript{36} The dorey usually was fashioned from a single trunk of maho-
gany or cedar and was from 25 to 50 feet in length.\textsuperscript{37} A relatively
large craft, the dorey was known for its seaworthiness in deep water as
long as it was handled by an experienced crew. The pitpan was somewhat
smaller; built from the same materials, this canoe was considered faster
than the dorey due to its relatively flat bottom. Mosquito Indians,
notorious for harpooning sea turtles, preferred the pitpan as a primary
fishing craft.

The Caymanian turtling canoe may have been an adaptation of the double-ended pitpan. The craft's weatherliness was increased by the addition of two planks on each side of the hull in order to gain more freeboard. Internal strength was insured by the insertion of thwarts and occasional framing of the hull. In pursuit of turtle, the canoe was either rowed or sailed rather than paddled. Rigging traditionally was comprised of rope made from the thatch palm (Coccothrinax jamai-
censis), which grows in abundance in the Cayman Islands.

Canoes acquired in Central America and adapted for turtling were considered too long by some Caymanians. A craft of typical dimensions—for example, 22 feet in length, six feet in breadth, and equipped with four oars and a mast 18 feet tall that supported a mainsail and a jib—ordinarily might have been suitable for netting green turtles. Drawing only 18 inches of water when fully loaded, a canoe of this size certainly could carry a large catch. Cayman Brackers, who have always stalked the hawksbill turtle with drop nets, found the long canoe much too unwieldy to turn on short notice when attempting to center their nets over the unpredictable reptiles. 38

In 1904, a turtling captain from Cayman Brac, Daniel Jervis, decided to build a shorter and wider boat that would be easier to maneuver than the canoe. 39 The resulting vessel, which he named Tara, was to be the prototype of the traditional Caymanian catboat, an ultimate adaptation of small craft designed especially for turtling. Only 14 feet in length and 3 feet 8 inches in breadth, the new vessel was constructed by attaching four temporary frames to the keel, planking the entire boat, and then inserting permanent framing and thwarts.
Equipped with sails and oars, the design was so successful that it soon was adopted by the islanders of Grand Cayman.

The double-ended catboat's features soon became standardized. Typical dimensions were 16 feet in length and four feet in breadth, although some boats were slightly larger. The first step in catboat construction was to carve a half-model to the intended shape of the boat. The model usually was scaled 1:10 or 1:12. No plans or drawings were considered necessary, as the builder invariably knew exactly the desired shape and dimensions his boat should have from long experience building or fishing in catboats. Framing shapes were taken directly from the half-model, which occasionally was cut into station sections to facilitate obtaining the desired curves.

Compass timbers for the keel, stem and sternpost, and frames were carefully selected from local hardwood forests. Mahogany (Swietenia mahogani), cedar (Cedrela odorata), pompero (Hypelate trifoliata), jasmine (Pumieria sp.), and White Wood (Tabebuia leucoxylon) were used, the first two being the most common. Occasionally, a hardwood sapling was bent over to the lee of the prevailing wind and tied to the ground in order to be "trained" to the desired curvature. This practice demonstrated the foresight of Caymanian boatwrights because, due to the slow growth of hardwoods, the timber could not be used for at least a generation.

Floors and half frames, usually numbering from 11 to 15, were either sawn or steamed to fit the internal shape of the hull and were fastened to the keel, stem and sternpost with treenails. Seven or sometimes eight strakes of white American pine were carvel-fastened to each side of the boat. Copper nails from Jamaica and, later, brass
screws were used. The uppermost, or shear strake, was slightly thicker than the others, which averaged 11/16 inches thick. A caprail and sometimes a rubrail were added to the gunwale.

A longitudinal stringer was inserted on each side of the internal hull, serving to support four thwarts. The forwardmost thwart—a heavy member often made up of three or more planks fitted edge-to-edge—supported the mast, which was passed through the thwart and into a keyhole-shaped socket of the mast step atop the stem scarf. This forward thwart also served as a breasthook. As in the typical catboat rig, the mast was stepped far forward in the vessel, but it had no stays or shrouds; the boom and mast assembly commonly was quickly unshipped and laid in the boat when the turtling grounds were reached. The mast was rigged with a sprit or Marconi mainsail and had a distinctive rake aft. Occasionally, the catboats used small jibs, which were useful when sailing to windward. However, the absence of a centerboard or deep keel, as well as standing rigging, indicates that sailing was considered an auxiliary means of propulsion. Indeed, the rudder was designed to be operated by yoke lines rather than a tiller, so that it could be more easily unshipped. Thus, with sailing rig and rudder removed, the double-ended catboat became a highly maneuverable platform under oars for netting turtles.

Catboats were each equipped with two oars, eight to ten feet in length, and sometimes a spare. Called "sculls" by the turtlers, the oars were composite-built: the loam of Spanish elm and the blade of white pine. A long paddle, often over seven feet in length, also was carried and may have been used as a steering oar when the rudder was unshipped. The boats were not equipped with oarlocks; instead, a small
piece of wood, called a "pallet," was fastened to the caprail. Two holes bored through the pallet were threaded with thatch straps, which held the oars to the gumwhale. As with an oarlock, this arrangement was a highly functional one, for the boat could quickly be backed, changing directions as the turtle chase required.

Caymanian catboats invariably were painted a distinctive bright blue color. The same traditional color, called "catboat blue," also was applied to those articles of boat's gear that were used in the water, such as oarblades, a paddle, a long pole for maneuvering in shallow water, and the water glass. The blue paint was a functional part of the turtling tradition because it acted as an effective camouflage, blending in with the surrounding water and allowing the fishermen to approach their prey undetected.

The Ajax, built on Cayman Brac, is a typical example of the classic Caymanian catboat (Figure 25). Stored in a shed behind the house of a prominent Brac family, the boat is one of the few surviving representatives of these turtling craft that remain in the Islands today. The boat's well preserved condition, and that of its associated equipment, allowed the entire vessel and gear to be studied and recorded. A half-model, from which the boat had been constructed, was also available for examination, and was kindly loaned for that purpose by the vessel's builder, Mr. Lee Jervis. A series of offset measurements were taken from both the model and boat in order to establish the catboat's hull shape and characteristics.

The catboat of the Cayman Islands was quite similar in form and construction to the traditional New England whaleboat. Both were double-ended fishing craft built for swift movement under oars, and
Figure 25: The Caymanian catboat Ajax

lightly designed so that they could be carried on larger craft and lowered into the sea when the fishing grounds were reached. Each was a highly maneuverable vehicle adapted to the task required of it, without frills of nonfunctional features. The reconstructed lines of the Ajax (Figure 26) provide an interesting comparison to those of a typical New England whaleboat, such as that built by a boatwright named Charles Beetle in 1933 (Figure 27).42

The whaleboat was generally larger that the catboat; pursuing and harpooning a cetacean required more oarsmen and equipment than setting nets or stalking turtles on the seabed. Beetle's boat measures 29 feet, 5 3/4 inches in overall length and has a beam of 6 feet, 5 inches, while
Figure 26: Lines of the catboat Ajax

CAYMANIAN CATBOAT
AJAX
BUILT BY LEE JERVIS
CAYMAN BRAC, B.W.I.

DRAWN BY: R.C. SMITH
T. OERTLING
JUNE 1981

NOTE: LINES MEASURED TO OUTSIDE OF PLAUKING
ACTUAL HEIGHT OF KEEL AND SHOE UNKNOWN

SCALE IN FEET
Lines of the Beetle whaleboat

THE MARINE HISTORICAL ASSOCIATION INC.
MYSTIC SEAPORT
MYSTIC, CONNECTICUT

BEETLE WHALEBOAT
LINES & OFFSETS

DRAWN BY: B. CAMERON
DATE: JULY 1973
SCALE: 1:100

SERIAL NO. 139
Jervis's boat is 19 feet overall and 4 feet, 4 inches in breadth. However, the length-to-beam ratio of each is virtually identical; the whaleboat being 4.43:1 and the catboat 4.38:1.

The whaleboat was perhaps the better sailor of the two types; it usually had a retractable centerboard, which when lowered through the hull, would balance the sail area and give the craft more grip on the water when sailing to windward. The catboat had no such centerboard, or even a sailing keel. However, the catboat's keel was slightly deeper than the whaleboat's, and its hull displayed a more pronounced deadrise, compensating to a slight degree for its shallow draft.

When the turtle fisheries of the Cayman Islands and Cuba became increasingly depleted, Caymanians began to build larger craft for the 700 mile voyages to the fishing grounds off Central America and back. By necessity, the Islanders became their own naval architects, shipwrights, carpenters, sailmakers, and blacksmiths. The first recorded ship to be built in the Cayman Islands was the Polly and Betsy, a 36 ton schooner constructed in 1801. She was owned by John Drayton, but registered in Montego Bay, the closest Jamaican port. Schooners were built primarily for the turtling industry, but many also began to carry passengers and freight, especially lumber. By 1850, the largest vessel built in the Islands was not more than 45 tons. Later, those schooners used in the lumber trade, hauling hardwoods to the mainland and returning with pine for shipbuilding, tended to be larger, averaging 80, 90, or 100 tons. The largest Caymanian schooner to be built was a vessel of 250 tons, constructed during the first part of this century; most turtling schooners, however, were between 40 and 50 tons. Sloops were occasionally built in the Cayman Islands for use on the fishing
grounds. Although some were as large as the schooners, built to 60 ton dimensions, the majority were around 20 tons. Sloops needed less hardware, rigging, and maintenance, and required less crew, but they were not as fast or efficient as the turtling schooners and therefore less popular.

As with catboats, schooners were designed and built from a half-model. Usually scaled at 3/4 of an inch to the foot, models were carved from cedar, often with sharp pieces of glass. The finished model was cut into sections, from which the progressive shape of the principal frames of the hull were obtained. A typical 76 ton turtling schooner of later years was 70 feet in length. Her stem and sternposts were sawn or adzed from native mahogany. Frames and knees were fashioned from either mahogany or other local hardwoods, such as pompero, jasmine, fiddlewood, or sapodilla. Her keel, planking and decking were of pine, imported from the United States (Mobile or Tampa) or Nicaragua. Masts and spars were usually of Pacific yellow pine or Douglas fir. Sailcloth, fasteners, and tackle came from the United States, but anchors and cable ordinarily came from Great Britain via Jamaica. Some of the special fittings were obtained from Nova Scotia, where the schooner was also a principal fishing craft.

On Grand Cayman, the traditional shipbuilding families were the Arches, Boddens, and Ebankes; on Cayman Brac, the Fosters, Scotts, and Tibbettses were known for their seaworthy schooners. Their vessels were usually designed, laid down, timbered, planked, and launched on the rocky shore in front of the family house. Although the process of building a ship was often slower than contemporary yard-times of New England or Nova Scotia, Caymanian schooners were virtually fashioned by the hands
of one or two men, working from scratch without plans. A suitably level location on the ironshore was selected to lay down the keel, which invariably had a worm-shoe like most West Indian craft. Stem and sternposts were attached at either end, and primary floors corresponding to the half-model sections were fastened to the keel, usually at six-foot intervals. Compatible futtocks and half-timbers were added to each side of the floors to complete the framing shape of the hull. The vessel was then fully framed with additional timbers between the originals.

At first, trenails of hardwood were used to fasten the components of the hull; however, it was soon found that trenails of pine were more suitable because they swelled to make a tighter fit. In the 1920's, galvanized iron fasteners replaced trenails. The schooner was planked, caulked with imported oakum, and decked. Masts were fitted by hand, utilizing a system of shearlegs, blocks and tackles. Originally, Caymanian vessels were stepped and rigged after they were launched, but once it was discovered that they were indeed stable enough without ballast and would not immediately tip over, masts were inserted prior to launching.

The launching of a Caymanian schooner was an island-wide event. Families, their friends, neighbors, acquaintances, and everyone else took the day off to assemble for the task of moving the finished vessel from the shore into the sea by hand. The occasion was characterized by a festive atmosphere, complete with food, music, and drink. A strong bridle was secured around the ship's hull and rove through a heavy block, which was attached to a large anchor, firmly embedded offshore. The bridle line ran from the anchor back to the beach, where the crowd waited in anticipation. Meanwhile, the schooner was eased down on her side
side by gradually cutting away the shoring under the hull. Thatch palm logs were placed under the vessel to serve as rollers—a system less complicated and expensive than the use of a cradle. When most of the shoring had been eliminated, the signal was given. Men, women, and children all took up the bridle line and the ship was slowly hauled and rolled into the water amid much encouragement and excitement.

The Caymanian schooner was quite similar in design to the Gloucester fishing schooner. The shape of the hull, and especially the bow of this West Indian craft appears to have corresponded with that of the Gloucesterman until the 1920's, when Cayman's shipwrights adopted the longer hulled bow of the Nova Scotia schooner. This shift seemed to produce a faster and more manageable sailing vessel, ideal for the passage to the fishing banks and subsequent maneuvers through the coral reefs (Figure 28).

Archaeological survey of the waters of Grand Cayman in 1980 produced two wrecksites that may be representative of large vessels used in the turtling trade around the turn of this century. Located in the brackish waters of North Sound, both vessels appear to have been abandoned in shallow water near the Careening Place and almost completely stripped of cargo, loose hardware, and fittings. However, the calm and silty bottom of the sound contributed to the preservation of the lower hull timbers, allowing a study of each vessel to be made.

The first of these sites, nicknamed the "North Sound Deep Wreck," was that of a composite-built sailing ship which was either scuttled or had sunk in a hurricane (Figure 29). Partially articulated remains of approximately 10% of the hull were found buried under ballast, silt and sand. Careful dusting of the wrecksite with whisk brooms and a water
Figure 28: A Caymanian turtling schooner
GC 043 'NORTH SOUND DEEP WRECK'
GRAND CAYMAN B.W.I.
CAYMAN ISLANDS SURVEY PROJECT
INSTITUTE OF NAUTICAL ARCHAEOLOGY
1980

Figure 29: The Deep Wreck
jet revealed the entire keel, which measured 72 feet, 6 inches, and portions of the stem and sternposts. The stempost was attached to the keel with a vertical flat scarf reinforced with bronze oval clamps. The sternpost attachment was similarly reinforced with bronze rectangular plates (see insets, Figure 29). The keelson had been either eroded or displaced, surviving only in areas where it had been fastened to the keel. Floors were bolted to the keel with iron fastenings and to half-frames with iron nails. Occasional chisel and spade pointed bronze fastenings were noted in association with the lower framing of the ship. Existing hull planking was fastened to the frames with treenails; ceiling planking with square iron nails. At least eight large iron reinforcing knees or rider frames were splayed outboard of either side of the central keel area. Their curved shapes corresponded with the various stations of the hull, where they served to brace the ship internally. Evidence of copper sheathing and sheathing tacks were found on exposed portions of the hull in the bow and stern.

Other features of the site included a collapsed windlass assembly near the bow, several wooden pulley sheaves (some with bronze coaks), wire cable, a mooring bitt, and an unidentified timber associated with chain, which may have been a cathead piece. No ground tackle, such as anchors or anchor chain, was located on or near the wrecksite. Additionally, no major rigging assemblies were observed, except for two fragmentary sections of chainplates. Two shallow test trenches were excavated in order to investigate the site more comprehensively (see Figure 29). Turtle bones and various fastenings were uncovered at the first location tested. The second test area, located near the stern on the port side, yielded a small sherd of ironstone ceramic ware, a blue bottle glass
fragments, and additional fastenings.

The composite construction of this vessel, clamps and plates at stem and stern, and the ironstone ware, suggest that the vessel sank during the latter half of the 19th century or the first quarter of the 20th century. Numerous turtle bones found in situ at the site suggest that the ship had been engaged in the turtle trade. However, the amounts of iron used in the construction of the vessel indicate the she was probably not built in the Cayman Islands, where hardwood was normally used.

The second wrecksite to be examined, on the other hand, may very possibly have been locally-built. Dubbed the "Duck Pond Wreck," the site had been subjected to looting in the past and had been narrowly missed during the dredging of an adjacent channel. The lower timbers of the hull were sufficiently exposed; however, to enable examination of the manner in which the vessel had been constructed (Figure 30).

The hull of the vessel had been almost entirely constructed with wooden fastenings. Floors, half-frames, futtocks, hull and ceiling planking all were fastened with treenails. Only infrequent iron bolts fastened occasional floors to the keel. Half frames were occasionally edge-joined to toptimbers by an iron staple driven in the inner face of the ends of the touching members. Only two large iron fastenings were noted on the site: drift bolts 11 1/2 inches in length.

The vessel's keel was 83 feet, 7 inches in length. Frame spacing averaged 20 inches center to center. Hull and ceiling planking were approximately 3 inches thick, and averaged 9 to 12 inches in width. Both keel and frames had similar cross sectional dimensions: 8 inches sided and 9 inches molded (the keel was slightly higher, measuring 11
A small test trench was excavated next to a pile of concreted stud-link chain. Recoveries consisted of 19th-century ceramics, such as annular and transferwares and fragments of undecorated pearlware. Sherds of bottle glass, one from a Dutch case gin bottle, were also found. Again, numerous turtle bones were present on the site. A small lead fishing weight was recovered, as well as a profusion of copper sheathing tacks, all one inch in length.

The "Duck Pond Wreck" appeared to date slightly earlier than the "Deep Wreck." Situated in extremely shallow water, averaging six to eight feet in depth, the site was located on the edge of a small mangrove island adjacent to the Careening Place. It is highly possible that the vessel had been intentionally run aground in shallow water and left for a wreck, due to its position perpendicular to the shore. The paucity of artifacts and the accessible depth of the water indicate that the vessel had been totally stripped. Of little value to the salvor or relic hunter today, both sites offer an insight into the nautical traditions of the Cayman Islands' turtling past and the types of vessels that were employed almost a century ago, when viewed archaeologically.
WRECKING

The Cayman Islands are situated along the northern edge of the sailing track once used by ships exiting the Caribbean Sea through the Yucatan Strait bound for the Gulf of Mexico and beyond. This route was considered faster and smoother than beating up through the Windward Passage between Cuba and Hispaniola, especially by English mariners sailing from Port Royal, Jamaica, back to Europe.¹

Spanish convoys bound for Mexico from Spain entered the Caribbean Sea at the Lesser Antilles and ran with the tradewinds along the southern coasts of the Greater Antilles. To avoid the treacherous cays and shoals of southern Cuba, they searched for the Caymans as landmarks to guide their navigation.² Likewise, galleons of the Tierra Firme fleet sailing north from Cartagena to Havana headed for the Cayman Islands to gain windward room and to keep off the Seranilla and Serraña Banks to the lee of the track.³

As landmarks, these islands were poor substitutes for the more mountainous headlands of the surrounding Antilles. Of the three islands only Cayman Brac rises more than a few feet above the sea; the other two landforms are difficult to distinguish on the horizon and almost impossible to see at night or in bad weather. Additionally, proximity to land could not be gauged with a sounding lead because of the abrupt rise of the seafloor from profound depths to the almost invisible reef-line fringing the Islands. Moreover, in the days before precise reckoning of longitude was possible, navigators could only guess how
far east or west they had sailed. Thus, many early charts depicted various islands with distorted longitudinal dimensions or erroneous geographical locations. In fact, until the mid-19th century, charts supplied by the British Admiralty consistently placed the Cayman Islands farther to the west than they actually were. Finally, constant but shifting currents flowing from the northeast and the southeast join together in the vicinity of the Cayman Islands to run through the Yucatan Strait, making dead reckoning of a vessel's westward progress in the region difficult to judge. The combination of these factors cause this island group to be a virtual trap for ships.

Selected incidents from the historical record bear testimony to the hazards of navigation near the Cayman Islands. In 1545, a Spanish ship bound for Campeche in the Gulf of Mexico paid an unscheduled visit to Grand Cayman on Christmas Day. Fray Tomas de la Torre, one of a group of Dominican friars aboard the vessel, kept a diary of the voyage. He recorded the incident as follows:

We were very sorry to see that we would have to spend Christmas at sea, and that we could not celebrate the birth of Our Redeemer as we would have liked to, but His Majesty provided such a pleasant following wind that we sailed well, except that we were hindered in doing what we wanted, and thus sang our Christmas Eve vespers with great devotion and in the evening met together with the vicar and prayed, he giving general absolution, and we made an altar in the stern in that shed or cabin of which I have spoken, and took the baby Jesus that we carried [on board] and wrapped him in hay that was there and kept watch over him all night long, burning white candles with prayers and hymns of joy, and Our Master provided copious tears and devotion. The first part of the night we sang many hymns, and at midnight we sang the matins and the midnight mass and afterwards the daybreak mass with all the solemnity we could without growing sleepy from the fair weather of the sea, and during our songs the sailors fell asleep, much to our great danger had not God miraculously delivered us. In the early dawn [December 25] while the people were sleeping and we were quite unaware, God opened the eyes of Fray Pedro Calvo and gave him the voice to cry out "land, land!". The sailors quickly jumped up and also perceived it and with great urgency and shouts turned the ship about. Then the religious
company came out to see how near [to the land] we were and some declared that we were closer than others; it seemed to me that we were within two crossbow shots, which in the sea is only a short distance but nevertheless the ship was somewhat distant. God had miraculously delivered us, and gave life that day as a New Year gift. It [the land] was one of those islands called the Caïmanes and was called Grand Cayman. It is a very small island, like that of the rivers [Deseada, where they took on water after crossing the Atlantic] where, if we were to stop and remain for sustenance, we would quickly die of thirst. Afterwards the bishop recited high mass with all solemnity, after which they gave us much to eat, although the greatest gift [life] does not supply the necessity of the sea. In the afternoon we sang our vespers and complines, and thus celebrated the holy day of the birth of our Savior.⁵

Despite the near-disaster which befell this religious order at sea, the dangers of the voyage apparently only served to reinforce the faith they were bringing to the heathens.

The Spaniards were not the only mariners to arrive unexpectedly on the reefs of the Cayman Islands. Nearly a century later, when the Dutch began to cruise the West Indies for profit and plunder, they too were confronted with ruin on Caymanian shores. Hoping to hinder or capture the Spanish plate fleet near Havana, the Dutch West India Company sent a squadron of ships to the Caribbean in 1629 under Admiral Paters. Several of the vessels instructed to join a fleet rendezvous off Havana never arrived. The fate of one, the Dolphijn, was described by De Laet in his chronicle of Dutch maritime pursuits in the West Indies:

The first of August [1630] the Admiral ordered that each captain should bring to him the muster roll of all his people, through which it was found that there were 1,888 men in the fleet, 237 of which were soldiers. The yacht Diemen was to come from Pernambuco, but due to the current and thunderstorms, was driven off course and made its way home through the West Indies. Also Captain Joachim Gijsen and his ship Dolphijn became lost from Admiral Pater's fleet while crossing from Santa Marta [Columbia], and because the ship was poorly sailed, it fell beneath [to the lee of] Jamaica, and was wrecked on Grand Cayman through poor supervision by the officers. For 16 weeks he and his crew held out on the island, while building a
yacht, which he named the **Cayman**, from the planks of his broken ship. This craft came here with 122 men and little provisions, in hopes of finding our ships, and if unsuccessful, heading to Virginia [New Netherlands Company]. They brought 4 bronze and 2 iron cannons with them and had hidden the rest on the island. They thought it advisable to sell the yacht **Cayman** and turned the crew over to the fleet. 

Details relating to this unfortunate incident have yet to be brought to light. Archival records pertaining to the Dutch West India Company during this period are fragmentary or nonexistent, many having been lost in a fire during the 19th century. Moreover, archaeological survey of the coastline of Grand Cayman failed to produce evidence of this shipwreck or the enforced occupation of the temporarily marooned mariners.

The Cayman Islands became a familiar host to highwaymen of the sea during later decades; however, the same remote reefs that afforded the "brethren of the coast" refuge also took a toll. The following excerpt from Daniel Defoe's popular 18th-century *General History of the Pyrates* demonstrates not only the foolhardiness of navigation at night in this region, but also an often understated occupational hazard of those practicing piracy:

>The beginning of August, 1722, the Pyrates made ready the Brigantine, and came out to Sea, and beating up to Windward, lay in the Track for their Correspondent in her Voyage to Jamaica, and spoke with her; but finding nothing was done in England for their Favour, as 'twas expected, they return'd to their Consorts at the Island with the ill News, and found themselves under a Necessity, as they fancy'd, to continue that abominable Course of Life they had lately practis'd; in order thereto, they sail'd with the Ship and Brigantine to the Southward, and the next Night, by intolerable Neglect, they run the **Morning Star** upon the Grand Caïmanes, and wreck'd her; the Brigantine seeing the Fate of her Consort, haul'd off in Time, and so weather'd the Island. 

Unlike the Dutch sailors nearly a century before, the crew of the **Morning Star** were almost immediately rescued from the island and continued on their voyage, although pursued by a warship which had been
sent to apprehend them.

By far the greatest shipping disaster in the history of the Cayman Islands occurred on a dark night in 1794. Newly commissioned Captain John Lawford in the H.M.S. Convert, a converted French prize, was escorting a convoy of 58 full-rigged merchant ships and three schooners bound for Europe from Jamaica, when his frigate and nine other vessels crashed into the windward reefs of Grand Cayman. Writing a report to the Admiralty from the beach five days afterward, Lawford ascribed the cause of his misfortune to the consorts' disobedience of his sailing instructions by stating, "Had the ships of the convoy kept their stations and attended to signals which I am sorry to say was not generally the case with by far the greater number, this misfortune could not have happened." However, the subsequent court-martial of young Captain Lawford and his officers and men concluded otherwise:

The Court having thoroughly examined into the several Circumstances attending the same, and having maturely and deliberately considered the whole, is of the opinion that the Misfortune was occasioned by a strong Current setting the Ships very considerably to the Northward of their Reckoning and doth therefore adjudge that the said Captain John Lawford Commander of His Majesty's late Ship the Convert, the Officers and Company of the said Ship, be acquitted, and they are hereby acquitted accordingly.

The "Wreck of the Ten Sail," as the episode has been called by Islanders since that unforgettable night, may have been the cause of a specific warning to mariners in the first Sailing Directions for the Cayman Islands, published in 1827:

The land [Grand Cayman] is very low and many ships have passed the island in clear moon-light nights without seeing it; hence a near approach to the eastern part, during the night, would be attended with great danger. Indeed every degree of caution should be taken, as it is common for ships to be out of their reckoning, particularly with light winds and variable currents, which frequently prevail hereabout.
In fact, the eastern reefs of this island comprise a veritable graveyard of ships. A Scottish missionary, Hope Waddell, who was wrecked there in 1845, noted "anchors, chain cables, and fragments of ships lying on the reef." Archaeological survey of this area confirmed Waddell's observation, producing 24 distinct wrecksites in various stages of deterioration. Several were found to be lying on top of others, and many were scattered and dispersed shoreward due to storm activity and the constant action of the sea.

Despite the advantages of modern navigational apparatus, ships continue to wreck in the Cayman Islands, and the eastern side of Grand Cayman still collects the majority. As recently as 1964, a 7,500-ton liberty ship, Ridgefield, struck the windward reef under full steam on a quiet night, awaking the entire village of Gum Bay with the tremendous noise of the collision. Two years later, a 2,400-ton freighter, Rimandì Mibaju, smashed into the same reef, coming to rest less than a half-mile from the Ridgefield. Today, these two wrecked vessels are prominent reminders of the unfortunate sailors who unintentionally found themselves ashore in the Cayman Islands (Figure 31).

The preponderance of shipwrecks in these waters cannot be disputed. Field survey of the three Islands located and recorded over 70 wrecksites dating from the 17th century to modern times. An inventory of historically documented shipwrecks in the Cayman Islands includes at least as many as were found in the field. Still earlier sites of wrecked vessels may lie undetected under the seabed or never recorded in written documents. The numerous sites that were examined and recorded offer a crosssection of maritime traffic in the western Caribbean as well as several examples of vessels that relate directly to the history
Figure 31: The wrecks of the Rimandi Mibaju (left) and the Ridgefield (right) on the windward reef of Grand Cayman Island.

of the Cayman Islands, such as the turtling vessel described in the previous section. Each of the wrecksites, whether deposited accidentally on the offshore reefs or abandoned as a relic of island nautical pursuits, contributed directly to the formulation of the Caymanian heritage. Comparative interpretation of the sites encountered during the survey revealed that most, if not all, of the wrecked vessels contained little or no cargo. Although many of the wrecksites were badly disturbed by exposure to the elements, components of the ships, such as hardware and ballast, were still identifiable. Their cargos,
on the other hand, could only be discerned by minimal traces, if at all. The obvious conclusion for the absence of cargo materials on these sites is that extensive salvage was conducted on the vessels subsequent to their wrecking. This conclusion is supported by the historical record; in fact, wrecked ships, and especially their contents, appear to have represented a resource second only to sea turtles throughout the development of Caymanian culture.

Marine salvage operations have always been a part of the maritime tradition. The Cayman Islands are no exception; indeed, wrecking comprised an important part of the seafaring lore present in the Islands even before they were settled permanently. The Dutch captain Joachim Gijsen, for example, depended on the salvage of his wrecked ship Dolphijn to end his enforced stay on Grand Cayman. Two years later in 1632, the ship Amerfoort of the fleet of Martin Thijss en route to Havana was instructed to stop and salvage the Dolphijn's remaining guns.15

Nearly 40 years later, Captain John Morris, one of Henry Morgan's most valued privateers and the same captain who captured Manuel Rivero Pardal's frigate, wrecked his own frigate Dolphin in the Cayman Islands while returning from the infamous raid on Panama in 1671. Shortly before, the privateer frigate Lilly had been abandoned nearby, her captain leaving her for a wreck.16 Morris salvaged what he could from his own ship, fitted out the Lilly and headed for the southern cays of Cuba, "where he took a peragua laden with tobacco, kept the men prisoners, tormented the master, and kept the tobacco."17 Similarly, the pirate Edward Low made use of the Cayman Islands to strip and scuttle his ship on the western coast of Grand Cayman in order to join forces
with another freebooter, George Lowther, captain of the **Delivery**. 18

Wreck plundering for profit in the Cayman Islands first received conspicuous attention due to the exploits of an opportunist named Neal Walker. Accused by the Governor and Council of Jamaica in 1730 of illegally salvaging some 16,000 pieces of eight and a quantity of gold from the recently wrecked Spanish galleon **Genovesa** on the Pedro Bank, Walker retreated to his hideout on the east end of Grand Cayman. A proclamation was issued for his arrest. 19 Before he could be captured and tried for piracy, Walker appeared at the scene of another Spanish wreck, the brigantine **San Miguel**, which had run aground on the reefs of Little Cayman. 20 Instead of silver and gold, the vessel was laden with large quantities of brandy and wine, 21 part of which Walker managed to plunder before escaping once again.

The establishment of the first permanent communities in the Cayman Islands during the early 1700s included the roots of the Caymanian seafaring traditions transported from nearby Jamaica. However, the remoteness of the three Islands kept them outside the close rule of law. The difference between salvage and piracy was to remain relatively unresolved in the Cayman Islands, but the occupation of wrecking, as it came to be known, was firmly entrenched. The first description of the island inhabitants of Grand Cayman, published in 1774, includes discussion of a growing culture, dependent on the sea but independent of outside authority:

Although the island is an appendage of Jamaica . . . the people upon it have never been an object of the legislature of that colony: they have a chief, or governor, of their own choosing, and regulations of their own framing; they have some justices of the peace among them, appointed by commission from the governor of Jamaica; and live very happily, without scarcely any form of civil government . . . The Bermuda sloops have a pretty regular intercourse with them; their
crew are attentive to two points, curtailing and plundering of wrecks. The people of Cayman have now and then benefited likewise by such unhappy accidents; . . . Yet, to do them justice, they have generally shewn equal activity and humanity upon these occasions, in saving the lives of mariners and passengers, and preserving the cargoes, making free with a moderate share only of booty, by way of salvage.\textsuperscript{22}

On at least one occasion, the Caymanians preserved cargoes that included slaves; for example, in 1781 the African slave ship \textit{Nelly}, en route to Jamaica, was wrecked on the Caymans and "a great many [of the slaves] were sold to pay salvage and other expenses."\textsuperscript{23}

The Wreck of the Ten Sail likely caused a general consternation among the inhabitants of Grand Cayman in 1794. No doubt the local populace did its share to assist in the saving of lives and property. Captain Lawford's account of the disaster includes mention of "assistance of the small craft of the island,"\textsuperscript{24} but among his correspondence is a very peculiar letter which he received from a delegation of islanders:\textsuperscript{25}

\begin{flushright}
Geo:Town 12th Feb\textsuperscript{y} 1794
\end{flushright}

Capt. John Lawford

\textbf{Sir}\

We the Subscribers, Inhabitants of the Island of Grand Camanœa do Certify on Oath that from the distressed Situation on the Island in the Article of Provisions, owing to the Hurricane of the 19th Oct. last, its morally impossible for the Inhabitants to support themselves, and with the Addition of the different Ship's Companies Wrecked in the East of this Island on Saturday Morning last.

We the Subscribers think it Absolutely Necessary for our own preservation, that the diff\textsuperscript{e} Crews belonging to the Wrecks already specified must be immediately removed from this Island as soon as possible.

We are with the utmost respect

\textbf{Sir}

Your most obedient Servants

Geo\textsuperscript{e} Turnbull
Geo\textsuperscript{e} Turnbull for Capt: Wm Bodden
Joseph Dalby
Robert Knowles Clark
Thomas Thomson
Wm Gereat Prescott
Hugh Mitchell
James Hoy
At the time, the population of the Island probably amounted to less than the total complement of the H.M.S. Convert alone, not to mention nine other vessels. According to the first census of Grand Cayman in 1802, the residents numbered 160 in all. The closest community to the wrecksites, the village of Old Issacs, consisted of only three families. In contrast, the muster roll of the Convert listed 220 men on board when she left Jamaica. Thus, the ten wrecked ships caused an influx of survivors many times the magnitude of the people already on the Island. In response to pleas from the islanders, Lawford distributed his people on board those convoy vessels which had escaped destruction and dispatched them toward Cuba with letters to the governor of that island requesting aid "as they may be under the necessity of revictualing at the Havannah." He chose to remain behind on Grand Cayman with 30 men to save as many of the ship's stores as possible with the help of the local boatmen.

A story about the Wreck of the Ten Sail is told today by elderly Caymanians. It seems that for a period of time following the convoy disaster, the Island underwent a revolution in fashion apparel. Bolts of cloth obtained from the wreckage were quickly distributed by the delighted island women and transformed into dresses and other articles of clothing. The only drawback of this sudden windfall was the fact that all of the cloth was of the same color and design.

No doubt there were other categories of goods immediately utilized by the ingenious islanders. Indeed, there can be little doubt that the Island benefited greatly from the sudden deluge of material products, including the remains of the ships themselves. The Reverend Hope Waddell, during his unexpected stay on the Island in 1845, observed that
wreckage of all sorts was put to good use by the inhabitants of the east end, and that "fragments of ships seemed to form part of most of the common people's houses." 30

The Wreck of the Ten Sail may have crystallized the tradition of wrecking among Caymanian seamen. In the late 18th century, the shift in turtling from Cayman to Cuba on a larger scale brought this auxiliary occupation to the forefront. The presence of Caymanian turtlers along the cays and shoals of southern Cuba did not go unnoticed by local officials. In 1797, the Governor General of Cuba received a report from a Captain Don Juan Tirri, who painted an unfavorable picture of Grand Cayman and her intrepid turtlers:

The islet is inhabited by a handful of lawless men who bear the name, and accidentally carry on the trade of fisher-folk, but who are in reality nothing more than sea robbers. The island constitutes their lair and it is the place where they hide their ill-gotten gains . . . they very often witness, or soon hear of the frequent shipwrecks of the mariners driven onto . . . reefs. Instead of giving them assistance and help that humanity demands, they hasten thither only to rob them and take to their caves even more fragments of broken vessels. They make no exception even for English boats sailing from Jamaica, many of which fall into their clutches. 31

Captain Tirri recommended in his report that the Spanish government "wipe out this pirate's nest." 32

Reverend Hope Waddell, wrecked in the Weymouth while en route from Jamaica to England with his family in 1845, provided a less biased account of the activities of Caymanian wreckers. His firsthand account described what happened the morning after the schooner ran aground on the east end of Grand Cayman:

A fleet of canoes was making for us, and soon surrounded our helpless craft; when a host of wild, reckless-looking, coloured men sprang up the sides, like pirates or boarders greedy for prey. The head man, advancing to the captain, with one word of pity and two of business, agreed to take everything ashore, on the usual terms of half for
their trouble. Then began the work of despoiling the vessel. The fellows were up in the rigging, and over the spars, and everywhere in a moment. Down came the sails and ropes, bundled into the canoes, and off ashore with amazing rapidity. Up came everything from the hold. The cabin doors, fittings, and furnishings, were by fair or foul means torn off and sent away. The people seemed to vie which would do the most, the canoes which would go and return most quickly, striving to strip the wreck during the calm of the morning, before the sea breeze rising should impede their operations. Some of them were swearing shockingly till rebuked; when they looked surprised, begged pardon, and then shouted to their companions to mind themselves, as there was a "parson" on board.33

Waddell took the opportunity to become acquainted with the islanders during the following days. He and his family stayed in the chief wrecker's house, which was the only two story dwelling on the coast. Sailing by boat to the western end of the Island to await a ship to England, Waddell found that George's Town (Georgetown) had a church and a schoolhouse, but neither minister nor teacher, and kindly offered his services. "With avidity they received all the books and tracts we had to distribute; and implored us to make known their destitute condition, and procure them a missionary."34 The Caymanian situation during this period is further reflected in the words of an island woman who told the Reverend: "Sweet potatoes will grow in some parts, and we all go a fishing, especially for turtle, to supply the English ships. But, to tell the truth sir, our main dependence is on wrecks, and we all thank God when a ship comes ashore."35

A legend exists on Cayman Brac, which if substantiated could cast a shadow over this aspect of Cayman's maritime heritage. On the southeastern point of the bluff, which is one of the highest spots on the cliff overlooking the windward approach to the Island, there is a section of land known as "Fireburn." It was thought that this overlook would have been an ideal location for a watchtower or signal fire;
perhaps lookouts were posted to warn approaching Spanish fleets at night during the 16th and 17th centuries. In an attempt to determine the origin of the place-name, several elderly Brackers were interviewed. Passed down through the generations, a story of wrecking came to light. Rather than warning approaching ships at night, watchmen were said to have walked the edge of the cliff with a torch to lure mariners into thinking that the slowly moving light was another ship underway and thus cause them to sail into the cliffs. 36

Regardless of the verity of the Fireburn legend, shipwrecks did occur near the edge of the windward cliffs of Cayman Brac. Oral histories relate the fate of the Curacao, a merchant vessel which smashed into the bluff during a storm in 1915. According to local accounts by islanders who remember the incident, a grisly sight awaited those who climbed the bluff overlooking the wreck the morning after the storm. Severed limbs and other remains of the ship's captain and his wife had been thrown, still clad, up onto the 140-foot high cliff by the impact of the collision. 37 Five-gallon tins of kerosene, comprising part of the Curacao's cargo, also were found along the top of the bluff. Several days later, the people of Grand Cayman, some 70 miles to the lee, discovered scores of the same tins floating ashore at East End. 38 For months following the wrecking of the Curacao, lamps in the houses of families on both islands burned brightly.

A similar legend on Grand Cayman explains the origin of the place-name for Rum Point on the eastern edge of North Sound. Sometime in the late 19th century, a ship was wrecked on the reefs guarding the Sound several days before Christmas. Her cargo consisted of West Indian rum from the sugar plantations to windward. Today, the villagers of East
End, on the opposite side of the Island, relate the tale of a strange procession that came into their community the day following the wreck. It seems that the cargo of the ship had been brought ashore, the barrels of rum loaded onto a cart that was headed down the trail to East End. Along the way, portions of the barrels were given out to friends and neighbors, and by the time the cart reached its destination at the end of the trail, its owners were incoherent and the rest of the Island in various stages of intoxication.\textsuperscript{39} Those who remember this story attest to the unprecedented Christmas celebration that year.

Wrecks that came ashore were rated as "good" if they produced large amounts of salvable cargo. One such wreck was that of the \textit{Dene}, a merchant vessel which ran aground on East End in 1846. Heavily laden with a valuable cargo of dry goods, the ship was a godsend to the islanders, who had just suffered a major hurricane that year. First records that one elderly inhabitant who remembered conditions in the Islands after the storm remarked that "everyone's spirits were at zero," when the news of the wreck of the \textit{Dene} came and "revived us all."\textsuperscript{40}

Another good wreck was that of the \textit{Prince Frederick}, which occurred on the south shore of Cayman Brac in 1895. Salvage of the full-rigged, composite-built merchant vessel began almost immediately after she ran aground. A popular Brac anecdote relates the consternation of one man who leapt aboard the vessel with axe in hand to chop the masts down. At the first blow, his axe was turned aside, and the eager salvor found that the masts were made of iron.\textsuperscript{41} As salvage proceeded, a night watchman was posted on the deck of the stricken vessel, but due to his carelessness while cooking a meal one evening, the wreck caught fire and was destroyed. Today, the remains of the \textit{Prince Frederick} lie
along the shallow shelf on the seabed among the coral ridges. Although the wooden hull and decks have been consumed by fire and the sea, her iron masts, anchors, hardware, and a neatly arranged assortment of reinforcing frames and knees testify to the vessel's large size and solid construction. The accidental fire did not prevent all of the wreck's contents from being put to use by islanders; ballast stones from the Prince Frederick comprise the front of a large building in Georgetown on the larger island.

Indeed, examples of salvaged materials can be found incorporated into new uses throughout the Cayman Islands. At East End, the floors of several houses are covered with French tiles pulled from a wreck in the sea nearby. The house of a prominent merchant family on Cayman Brac is adorned with a mahogany staircase saved from the wreck of a German ship. A hut on Little Cayman is built from the keel timbers of an old sailing ship, salvaged from a nearby lagoon. A stranded freighter, Oro Verde, recently was stripped, towed into deep water, and scuttled to create an underwater park for diving tourists. Her main derrick and boom were removed and sent to the Brac to serve as a crane on the government dock.

Sometimes, salvaged materials were sold or sent off island rather than used locally. Such was the case with anchors and cannons from wrecks along the reefs of the Islands which were collected for scrap during the Second World War, when iron was in demand. Among local fishermen, "scraping" has always been a familiar tradition. When fishing was slow, iron "fished" from wrecks represented additional income. In recent years the historical value of anchors and cannons has encouraged their sale to tourist hotels. Several badly deteriorated
examples retrieved from the sea can be seen decorating some of the more prominent establishments on Grand Cayman and, occasionally, the front lawns of private houses.

The Caymanian people no longer rely on wrecking to supply their needs. The drastic changes brought by air transportation and tourism have shifted the cultural focus from the sea to other preoccupations. The tradition of wrecking still remains ingrained to a certain extent in the language, habits, and folk legends of the islanders. In the Lesser Caymans, the shoreline is still regularly explored to discover what the sea cast up the night before, a practice that was common for as long as anyone can remember. Driftwood and other flotsam frequently are collected and incorporated into a variety of uses. The only "good" wreck that has come ashore in recent years was a drug smuggling boat, loaded with *ganja* (marijuana), which struck the reefs of Little Cayman on a dark night. Although the islanders salvaged the majority of the wreck's contents, they understandably turned it over to authorities rather than distribute it among themselves.
CONCLUSION

The first European voyages to the New World provided explorers with a startling awareness of the abundant natural resources of the Caribbean region. Some of these resources were familiar but rare, such as alluvial gold and pearls from the sea, each serving as a catalyst for further exploration and ultimate exploitation. Others were unfamiliar, such as tobacco, maize, potatoes or cassava, but these soon became a part of the European pattern of life. Many marine resources, especially the docile manatee and the timid sea turtle, although previously unknown, quickly were realized as supplemental food sources in areas where they congregated. One such area stood apart from all others and inspired the awe of those who witnessed its profusion of marine turtles—the Cayman Islands.

For what must have been millennia, the deserted shores of these three distant isles hosted an annual arrival of swimming fleets of reptiles which proceeded about their biological business undisturbed. This natural phenomenon did not go unnoticed by mariners who began to frequent the Caribbean Sea. The unassuming turtles soon were greeted by sea-calloused hands as they lumbered ashore on the Caymans at night to perform their nesting ritual and quickly were transformed into shipboard provisions for hungry sailors. This process, like the exploitation of so many of the world's resources, was to be repeated again and again until the seemingly inexhaustible numbers of reptiles would be reduced to the border of extinction.
The relationship between the sea turtle and man most likely began in the West Indies centuries before the Europeans arrived. Coastal hunting and gathering communities undoubtedly made use of the sea turtle along with other marine food resources. Indeed, the migration of aboriginal man from the mainland to the Caribbean islands may well have followed that of the sea turtle in some areas, although this notion has yet to be studied. However, it is clear that later European migration into the area was facilitated by the availability of fresh turtle meat.

The association between man and beast took on a new dimension as limited and local utilization gave way to wholesale hunting and trade in turtles during the colonial period by the French and English.

As discussed in the preceding sections, the Cayman Islands became the natural focal point for turtle fishing, which was a primary factor in the eventual settlement of the three small landforms on a permanent basis. The abundance of sea turtles had distinguished the Islands initially; later, it not only insured the survival of the first settlers in an area of limited agricultural possibilities, but it also directed their course in history as a distinctively nautical people.

The insular geography of the remote islands, coupled with the relatively sparse terrestrial resources, predetermined a necessarily seaward perspective for the embryonic Caymanian culture. Not only were marine resources heavily relied upon to support the first generations of islanders, but they also contributed to the formulation of traditional pursuits, such as turtling and wrecking, for which the Caymanians became widely renowned. Specialized fishing methods and vessels evolved to suit a people whose lifestyle became characterized by a tranquil pattern of isolated but independent insular existence, inter-
rupted only by an occasional hurricane.

These Islands, then, possess a maritime heritage unique to the West Indies. Historical materials gathered from archival sources have produced the testimony of events and persons that shaped their past. Archaeological investigations have shed new light on that past and offered a tangible legacy to be protected and appreciated in future generations. Ethnographic data from oral histories, legends and living memories have been collected to preserve the colloquial quality of Caymanian life.

The twilight of seafaring traditions as they have existed in the Cayman Islands is past. A rapid progression from insular isolation to instant integration with the world at large is taking place. Maritime skills have fallen aside as the advantages and pressures of modern life come to bear on the Caymanian situation. A quiet but drastic cultural and social transformation has separated the present generation from the previous, as young men no longer need to go to sea and young women no longer wish to stay at home. Indeed, it is doubtful that Cayman Islanders ever will return to the sea. Although no longer dependent on it as a major source and benefactor, they can never entirely forget its presence, which is a constant reminder of their heritage.
INTRODUCTION REFERENCES


3 Occasionally, curious objects are found in caves. Years ago, a local resident of Cayman Brac, Mr. B. B. Grant, discovered a clock in a cave while searching for shipbuilding compass timber on the southern side of the Island. Disguised by algae and mineral deposits, the clock was perched on a rock inside the cave. When cleaned, the timepiece was found to have been fashioned from pewter with gold plating. Engraved with the legend "BARCELONA 1729," the clock now is proudly displayed in Mr. Grant's house.
MARITIME GEOGRAPHY REFERENCES

1 This water source had locally become known as "the pirate's well," a reflection of a persistent island legend referred to as the "Battle of Bloody Bay." Alleged to have taken place in the area adjacent to Jackson's Point, the battle was supposed to have been fought between "pirates" who lived on the island long ago and the Royal Navy, which forced them to retreat along the northern coast where they were massacred, and the bay "ran red with pirate's blood." Whether this well was used by pirates at one time is unclear; however, the variety of ceramics and other materials collected during surface sampling of the site in 1979, suggested that the well had been in use for well over two centuries.

Analysis of this assemblage, as well as a locally gathered collection from the same site, revealed both Spanish and English cultural materials. The former affiliation was represented by numerous coarse eathenwares of the "olive jar" variety, and the latter by transferwares and salt-glazed stonewares. The chronological range of frequent usage of the well is thought to fit solidly within the 18th and 19th centuries, but may have been as early as the last half of the 17th century. Statistical analysis of clay tobacco pipe stem diameters suggests that the samples found at the well were in use during the earlier period; however, to assign a firmer beginning and ending date to this source of potable water would require a larger sample of diagnostic materials.

2 One such location, situated near the well at Bloody Bay, was alleged to be the remains of a stone fort. With the assistance of a local guide, the site was visited and surveyed. Small piles of randomly oriented limestone rocks were noted in an area of approximately one acre in size. No indication of any structure, foundations, or architectural symmetry was observed, and it was concluded that the area was an abandoned provision ground, the stones having been cleared to expose the soil for cultivation.

3 "We anchored at the West-end, about a half a Mile from the Shore. We found no Water nor any provision . . . indeed had it been in the Months of June or July we might probably have gotten Turtle, for they frequent this Island some Years as much as they do little Caymanes." John Masefield (ed.), Dampier's Voyages 1679-1701 (New York, 1906), pp. 133-134.

4 George Gauld's hand-drawn chart of Grand Cayman (see Figures 5 and 6 in the text) contains the following notation at the southeastern edge of the island, "Here Capt. Hodgson with a Company of the 31st Regt were Shipwrecked on a Transport from Jamaica to Pensacola in the night time in the Year 1766." Research in the Public Record Office (herein after referred to as PRO) of various Admiralty lists of commissioned ship captains
failed to produce a Captain Hodgson. Documents pertaining to the 31st Regiment of Foot, now known as the East Surreys, however, mentioned this unhappy incident along with other, more glorious episodes of the organization. Muster rolls of the regiment, located in War Office records (PRO, WO 12/4648), disclosed that a Thos.-Hodgson was promoted to Captain on 25 April 1765. His company included a lieutenant, an ensign, five sergeants, two corporals, 30 "effective private men" and a drummer, at the time.

A letter written by Major General Thomas Gage of the Army's New York headquarters to the War Office in 1768 described what happened to the 31st Regiment. "Captain Hodgson of His Majesty's 31st Regiment, on his Passage from this Place to Pensacola with 180 Draughts for the Regiment in West Florida, was unfortunately wrecked on the 28th of last November on an Island called the Great Commander [an obvious reflection of the good General's military mind], about Fourscore Leagues from Jamaica. Three men only were drowned, but the Provisions, Baggage, & everything else in the Ship was lost. Captain Hodgson dispatched a small Vessel without Delay to inform Admiral Parry who commands His Majesty's Squadron at Jamaica of his Misfortune, and to beg his Assistance; and I have learned from an Officer of the Navy, lately arrived here from that Island, that the Admiral had sent the Troops an immediate Supply of Provisions, & was repairing one of the King's Frigates to transport them to Pensacola." PRO, CO 5/233.

5 Captain Thomas Fitzherbert, commander of the Royal Navy frigate Adventure, wrote in the log the following notations:

"Friday 22st . . . The SW part of the Caymann West 5 Miles The first and Middle part [of the day] fresh breezes & fair, the latter do [ditto] gales & Cloudy Weather at 11 brought too, at 6 AM made Sail, at 9 saw the SE part of the great Caymanns bearing West 13 or 14 Miles, at 11 fired a Gun as a Signal -

Saturday 23rd . . . NW point of ye Caymains NNE 6 or 7 Miles Mode moderate & fair Wea[weather], Employ'd turning in the bay on the NW side of the Caymann, at 1 AM fired a Gun as a Signal for the Troops, at 2 fired another for them to get ready to Embark at ½ past 3 Anchor'd with the Best BF [bower anchor] in 7 fms Water & veer'd to ½ a Cable, the NW point NW B W the Town ESE. The Boat Embarking the Troops and Getting the Officers things on board - "Ship's Log of H.M.S Adventure, Thomas Fitzherbert Esquire, Commander," 13 January to 31 January 1768, PRO, ADM 51/52.

6 George S. S. Hirst, Notes on the History of the Cayman Islands Kingston, 1910), p. 24. Hirst thought the artifacts, which included cooking utensils, might have been left by "a latin race."

7 Ibid., p. 23.

8 The deposition of a captain of a ship stationed at the turtle fishing post on Little Cayman indicated that the Spaniards landed some two hundred men on the eastermost point of the Island in the middle of the night and proceeded to burn the fishermen's dwellings. This episode will be discussed in detail in the following section of the text.
9 Hirst, Notes, p. 115. Some of the gun emplacements were still visible in Hirst's time.

10 Ibid., p. 109. Hirst thought that both Georgetown and Boddentown were settled after the village of Prospect was established. The oldest known map of the Island, drawn by George Gauld in 1773 (see Figure 5 in the text), shows that Boddentown was a small community of at least ten dwellings, but Georgetown had not yet been named. Instead, a village called Hogsties appears at the location, with eight dwellings. Prospect does not appear on the map at all; however a place named Eden's is shown with two dwellings at the nearby location of modern-day Spots.

11 Ibid., p. 331.

12 A still popular contention about the origin of Gun Bluff's name associates the presence of numerous cannon on the reef in that locality. Hirst (Notes, pp. 115-116) recounts the inaccurate story of the Wreck of Ten Sail (discussed in the last section of the text), suggesting that the cannon of the wrecked ships caused the area to be called Gun Bay, and the promontory Gun Bluff. While several cannon remain partially buried under the seabed off Gun Bluff today, and have been archaeologically associated with the disaster, the name Gun Bluff appears on Gauld's map some 21 years before the wrecking occurred in 1794.

13 Scudding before a storm while on patrol for pirates, the H.M.S. Jamaica lost her steerage when the tiller suddenly broke, and broached in heavy seas. The sloop-of-war was finally righted after lying with her hatches in the water for some time, by cutting her mast and rigging away. Most of the loose equipment, however, had washed overboard and the cabin windows were stove in. Still in danger of foundering, Captain Knighton ordered the vessel's eight cannon and three of her swivel guns to be cast overboard, and the ship continued before the wind. The ship's "pylot" was consulted as to the best place to seek refuge to install a new mast and the "Broad Sound of the grand Caimanas" was chosen. Tragedy followed an attempt to enter North Sound as the pilot mistook the channel entrance (a common error, even today) and ran the sloop on the reef. "The Court Martial of Captain Francis Knighton, of His Majesty's Sloop Jamaica," PRO, ADM 1/5271.

14 Hurricanes striking the Cayman Islands in the last 200 years occurred on the following dates:

<table>
<thead>
<tr>
<th>September 1735</th>
<th>October 1876</th>
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<tr>
<td>August 1751</td>
<td>August 1903</td>
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<tr>
<td>October 1812</td>
<td>August 1915</td>
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<td>August 1835</td>
<td>September 1917</td>
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<td>June 1836</td>
<td>November 1932</td>
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<td>September 1838</td>
<td>July 1933</td>
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<td>October 1838</td>
<td>October 1944</td>
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<td>October 1846</td>
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15 Hirst, Notes, p. 177.
16 Ibid., p. 278.
17 Ibid., p. 280.

18 A cathead is a heavy piece of curved timber projecting from each bow of a ship for the purpose of holding anchors which were fitted with a stock in position for letting them go or securing them on their beds after weighing. Peter Kemp (ed.), The Oxford Companion to Ships and the Sea (London, 1976), p. 146.

19 Derived from the Dutch word kraal in the Afrikaan or West Indian context, a crawl was an enclosure constructed of vertical stakes set in shallow water for the purpose of keeping fish, shellfish, or, in this case, turtles, until sale or slaughter. Port Royal, Jamaica and Key West, Florida had the largest turtle crawls in the New World due to their importance as major entrepots. The former vanished into the sea during an earthquake in 1692; the latter has been abandoned during the last 20 years due to a decline in the turtle trade.

20 Exposed during recent dredging of the area, the crawl site consisted of fragmentary wooden pickets, turtle bones, and what appeared to be the remains of a small ballasted boat in association with the crawl.

21 In Central America, from which the term "barcadere" may have been brought to the Cayman Islands, an embarcadero is a place, usually on a river, where hardwood and dyewood is assembled on shore for stripping and loading into watercraft.


23 Ibid.

24 Curtis Barnett, "Cayman on the Map," Nor'wester, March 1978, pp. 48-49. Diego Ribero was a Portuguese mapmaker in the employ of King Carlos I of Spain. A later version of his 1527 map of the West Indies, dated 1529, also depicts the Cayman Islands as the Islands of Lizards. Both maps are reproduced in Barnett's article.

25 The author had the opportunity to examine and photograph portions of da Castiglioni's superbly engraved atlas at the Library of Congress, Geography and Maps Division, where it is kept in a special vault for rare and fragile cartographic materials.

26 A discussion of these two species of reptiles appears in Grant, Herpetology, pp. 14-37. Grant felt that the name "Lagartos" reflected the indigenous iguanas, but was forgotten in favor of the crocodiles as the latter reptile became more widely recognized by mariners visiting the Islands. However, this author has been unable to find any early references to iguanas in numerous sources consulted, while mention of crocodiles appears with great frequency in the chronicles.
27 Other hypotheses as to the origin of the name "Cayman" have been attempted. Hirst (Notes, pp. 29-31) reviewed two suggested explanations: the word was derived from cayo and mano because Grand Cayman resembles an outstretched hand in shape; the island looks like an alligator, or caimán, when approached from the east. Rejecting both, Hirst offered two of his own suggestions: that "cay" (reef) and "main" (the sea) were somehow combined to produce "Cayman"; that turtles found alligators on the islands and named the place after the Spanish word caimán. The latter hypothesis seems more plausible considering the predominance of Hispanic-derived place-names in the Caribbean. The other suggestion, "reef-in-the-sea," sounds farfetched.

28 Barnett, "Map," pp. 49-50. The Wolfenbüttel map may have been the work of Diego Ribero. It is the first known cartographic representation to depict the Cayman Islands with any semblance of their modern name. The appellation "Caymanes," however, appears upside down on the chart, a reproduction of which appears in Barnett's article.

29 Ibid., p. 50. Barnett raises the possibility that Sebastian Cabot (son of the famous navigator, John) may have misread the Wolfenbüttel map in the drafting of his own version for Spain in 1544. This would account for the strange identification of the islands as "Canuanas" rather than "Caymanas."


32 Sir Hane Sloane, A Voyage to ... Jamaica with Natural History ... (2 Vols.; London, 1707), I, 342.


34 Sir Walter Scott, The Pirate (Edinburgh, 1822), p. 188. Scott's novel was supposed to have taken place in 1724. One of the characters in the story alludes to the mysterious past of the Cayman Islands. "'Is he dead?' asked Bunce: 'It is a more serious question here, than it would be on the Grand Caymains or the Bahama Isles, where a brace or two of fellows may be shot in the morning, and no more heard of, or asked about them, than if they were so many wood-pigeons.'"


36 Calendar of State Papers, "General D'Oyley to Commissioners of the
of the Admiralty," 13 April 1661.
TURTLING REFERENCES

1 See William H. Brown, Marine Fisheries of the British West Indies (University of Florida, Gainsville, 1967).

2 Columbus's discovery of the Cayman Islands was unintentional, as the following passage explains, "... afterwards on Monday 1 May 1503, we stood to the northward with winds and currents from the east, because of which we struggled continually to lay up as close to the wind as we could. And although all the pilots said that we would pass to the eastward to the Caribbe Islands, the Admiral feared he could not make Hispaniola. And this proved to be correct. For on Wednesday 10 May we were in sight of two very small and low islands, full of turtles, all the sea about there was so full of them that they looked like little rocks, and for this reason those islands were called Las Tortugas." Samuel Elliot Morison, Journals and other Documents on the Life and Voyages of Christopher Columbus (New York, 1963), p. 353.

3 This account is quoted in Neville Williams, A History of the Cayman Islands (Grand Cayman, 1970), p. 3. Williams did not reference his work, and the author has not been able to verify Drake's visit to the Islands.


8 Long, History, I, 62.

9 Tirri was commissioned to prepare a report on conditions in the Isle of Pines, Cuba, for the governor of that island in 1797. His report included a short description of the Cayman Islands, which is one of the few Spanish documents about the Islands that has heretofore been found by interested researchers, and is quoted in H. B. L. Hughes, "Notes on the Cayman Islands," The Jamaican Historical Review 1:2 (1946), pp. 154-158. In regard to the Spanish occupation of the Islands, an article published in the Kingston, Jamaica Daily Cleaner, February 6, 1968, p. 8:5-7, stated that, "in 1610, a group of Spaniards escaping the Inquisition founded a colony known in history as "Spanish Rock" in the approximate region of present-day Boddentown." The author has been unable to
substantiate this statement, which is probably a local legend.

10 "Son baliza o señal que reconocen las flotas que van a Vera Cruz para seguridad de su viaje," Antonio de Alcedo, *Diccionario Geográfico de las Indias Occidentales o América* (5 Vols.; Madrid, 1967 [1786-89]), I, 198.


12 A Dutch account of this expedition relates the apparent apprehension of the Spaniards at Havana after sighting the ships of Admiral Ita offshore, "On the 4th of July in the morning, we saw the Croone [high hills behind Havana] and Cornelius Huygen, with the Nordesterre and two shallop[s], came safely under the fort wall to get provisions and to see how it [the defensework] was. On the 9th they returned to the fleet; on the 9th they had seen many barcas tied up to the quai, although the Spaniards had scuttled them so we couldn't capture them. But we took out 20 hides and a little dried meat, [one was] loaded with turtles forward; we saw another barca, which the Spaniards had scuttled because they saw us coming, and found some dried fish in it, and featherwork and cotton cloth, but it was all wet." Joannes de Laet, *Het Iaerlyck Verhael van Verrichtinghen der Gestrveerde West-Indische Compagnie* (13 Vols.; 's-Gravenhage, 1931-37), I:2, 40-41.


19 De Laet, *West-Indische Compagnie*, I:1, 42.

20 Ibid., II:3, 125-126.

21 Ibid., II:4, 27.

22 Ibid., II:7, 169-170.

23 Ibid. In a section entitled "Bescrijving can de Caymans," De Laet recounts what is essentially the first nautical description of the Lesser
Islands, "these Caymans are three low islands, so that not over four or five miles [of the coastline] can be seen from the sea. The easternmost [Cayman Brac] is very steep on the eastern end, with sharp cliffs which are very barren without rubble; they stretch WSW about three miles in length. The west end is a long point; one can lie to behind the roadstead in about six, seven, and ten fathoms of water, but one can come to lose cable and anchor there. The second [Little Cayman] lies NNW about two miles from there and has the form of a triangle. Those mariners who would sail near the east cliff of the island will find that a bad reef awaits them, which from the cliff lies a great distance off; once past that, traveling near the northwest corner situated next to a sandy beach, many tasty turtles come from May to October to bury their eggs in the sand, which in the course of ten days hatch; they are mostly on the westernmost island, so that men can often come by one or two thousand and some so large that 20 or 30 men have enough to eat; they taste like calf flesh. Here are also many Caimans, which the islands take their name from; there are also many seabirds, good to eat. The islands are nothing more than stony sand, without fresh water or any fruit."


25 John Esquemeling, who accompanied many of the buccaneers on their voyages in the West Indies, returning to Europe to publish his version of their various exploits in 1681, briefly discussed turtles in the Cayman Islands. He noted four varieties of marine turtles: one with a soft shell (probably the leatherback), the green turtle, one called Cavana (hawksbill or ridley, which the French called Caoliannes), and Caret (probably the loggerhead). Esquemeling almost certainly copied his descriptions of the species from Charles de Rochefort's natural history of the West Indies, which was published several years earlier. See John Esquemeling, *The Buccaneers of America* (New York, 1967 [1681]), pp. 61-62.

26 Charles Rochefort's discussion of crocodiles in the Cayman Islands is the only contemporary description of the habits of these reptiles in relation to the turtles, "There are ... an abundance of monstrous crocodiles in the islands that are thereby named les Iles du Cayeman, and these are not frequented except in the season when the turtles are turned: because after the best flesh of the turtles is taken, the crocodiles come in groups during the night to feed on the intestines and carcasses that are left on the sand. Those [turtlers] that are supposed to watch for turtles to turn are obliged to carry a large wooden club to fend against these Cayemans, which they frequently overpower, and subsequently break their backs with the clubs.

"These animals have a white fat that sometimes serves as medicine to dissolve the flux that arises from cold humors; because it [the fat] is hot and composed of subtle parts. And for the same reason, these maladies are rubbed [with the fat] during the approach of the fever, in order to provoke perspiration. Pliny recited a thousand other virtues he knew about the crocodile, in order to fight each malady ..." Charles de Rochefort, *Histoire Naturelle et Morale des Iles Antilles de L'Amerique*
27 "Testimonio de las Declaraciones hechas por los franceses que se aprehendieron en la embarcación que coxis el navio del Corso," Cartagena, 1 April 1668, Archivo General de Indias, Sevilla (herein after referred to as AGI), Indiferente General 2542.

28 Jackson's description of the Cayman Islands is often quoted, but for the sake of continuity the author is inclined to include it here. "This place is low land & all rocky, & there bee 2 Islands of ye same name & Quallitie, being by ye Spanyards called Chimanos, from ye multitude of Alligators here found which are Serpents, if not resembling ye Crocodiles of Egypt. Hither doe infinit numbers of Sea Tortoises yearly resorte to lay their Eggs upon ye Sandy Bay, which at this time swarmed so thicke. The Island is much frequented by English, Dutch & French ships, that come purposely to salt up ye flesh of these Tortoises." William Jackson, "A Brief Journall or a Succinct and True Relation of the Most Remarkable Passages Observed in that Voyage Undertaken by Captain William Jackson to the Westerne Indies or Continent of America. Anno Domini 1642," Camden Miscellany, Vol. XIII, Camden Third Series, Vol. XXXIV (London, 1924), p. 24.


30 Calendar of State Papers, Colonial Series, America and the West Indies, 1675-1676 (Her Majesty's Stationary Office, London, 1964 [1893]), TX, 595.


32 Ibid., p. 80.

33 Ibid., pp. 83-87.

34 Calendar of State Papers, p. 119.

35 "Instructions for Thomas Windsor, Lord Windsor, Governor of our Island of Jamaica, in the West Indies," 21 March 1662, PRO, CO 308/1.

36 An excellant survey of these and other episodes in the tempestuous annals of the privateers is found in C. H. Haring, Buccaneers.

37 Morgan's various expeditions against the Spaniards were first described by Esquemeling, who claimed to have accompanied the men he wrote about. His accounts of Morgan's atrocities caused the publisher of his book to amend later editions or face a slander suit initiated by Morgan and his London friends. See Esquemeling, Buccaneers.

38 "Copie of a Narrative concerning ye Expedition att Madrehaya [Maracaibo] taken in May," in H. P. Thornton, "The Modyfords and Morgan," Jamaica Historical Review, 2:2 (October 1952), pp. 53-56. This report was among the letters of Modyford's brother, James, discovered in the
Muniments of Westminster Abbey. The document quoted was sent to Modyford by Morgan and six other privateers, who signed it on 20 May 1669.

39 "The Deposition of Cornelius Carstens, Purser of ye Shipp Mary and Jane, Bernard Claefen Spaerbyeck, Commander aged about 36 yeares being Sworne Saith: That on ye latter end of January last past they sayled out of ye harbour of Port Royal with letters from his Excellancy Sir Thomas Modyford to ye Governour of Cuba Signifying Peace betweene ye toe Nations arriveing in ye Bay of Masavilla, about ye 10th day of february last past, sent a Spanish Prisoner to give ye Governour of Byamo notice of their arrivall, whereupon he sent his Alcalde on board the said Shipp, who received severall Prisonets giving a Receipt for ye delivering of ym, a fier that ye Governour of Byamo sent three severall times Officers on board to search ye Shipp (feareing shee was a Privateer) whereupon, they entred into a Trade with ye saide Capt e Bernard, having made a bargaine with him for his whole Cargo, 5 or 6 days after ye agreement was made, a Spanish Armadilla fittet from Cartagena, with 36 men, ye Capt e being one Manuel De Ribero, a Portagnis saying, that he had a letter of Reprisall from ye King of Old Spayne for five yeares time from the Caribbe Islands thro ye whole West Indies for ye satisfaction of ye Jamaicans, takeing Port Bell, on ye 27th day of february Capt e Bernard towards Ensyed a Sayle with an English Ancient and a Kings Jack flying, the Sayle cuming neare, Capt e Bernard sent two men with his Yawle to see who it might bee, his men and mate were detainet on board, ye Frigate cuming nearer. Capt e Bernard hayled them to which they answered Clem Symers a Commander of a Jamaica Privateer, and fired a broadside & a Volley of Small Shott, answering one another with the like, Salutes about three heuers. The night approaching he parted from ym untill next day about two o'clocke in ye afternoon when he hoisted ye Burgonia flagg, and boarded then, to (fight), and after a Sharpe dispute of four heuers the Capt e being killed, the 3 or 4th Shot, after the Shipp was on fier, in the ForeCastill and asterne, they yielded, receiveing however no quarters, in this dispute we lost enely one man, & one boy besides ye Captaine, they by their own report having lost 36 men, and severall of their Leggs shott off and 8 or 10 days after taken gave them their owne Shippes long botes & Provisions to carry them to Jamaica carrying 4 of our men with the Prisoners & farther saith not. Sworne before me the 21 March 1669, [signed] James Modyford." PRO, CO 1/25.

40 "Thomas Modyford to Lord Arlington," 15 March 1670, Calendar of State Papers, 1661-1736.

41 "Deposition of Samuel Hutchinson," 16 June 1670, PRO, CO 1/25. Captain Hutchinson's account of the attack on Little Cayman is the best description of the events that took place during that incident.

"Jamaica
An Account given upon Oath of the Spaniard's attempt upon the English Fishermen at the Caymanns of the burning of the Governour's house and Carrying away of his Goods and of their taking one Ship one Katch and three Great Sloops and their Cutting and Destroying all the Fisher Bostas and Cannoys ye now upon ye Island. Samuel Hutchinson Commander of the Ship Hopewell riding at anchor in the
harbour called Hudson's hole in ye little Caymanns on the 14th day of
April last past Saw five Saile beeing all great Shippes Except one Tartan
they appeared about fower of ye clocke in the afternoone from the South
part of ye Island and came to an anchor within Muskett Shott without ye
Rocks of ye Said Hudson's hole with English Colours flying, they fireing
Six or Seaven guns, Shott at ye Said Hutchinson's Ship, upon wch ye Said
Hutchinson hoisted his Colours and fired one gun to Leeward, whereupon
ye Spaniards loared ye English and hoisted the Burgonia flag continued
fireing and manned ye Tartan and Severall boats in order to ye boarding
of Said Hutchinson's Ship, but now three tymes boates of ye Said
Hutchinson's lost only one man, though he had Several great Shott placed
in the hull of his Shipp, his maine yard being shot downe and mast Splin-
tered, the Governour of ye Caymanns beeing then aboard, evening drawing
on, ye boates went aboard their owne Shippes and about two of ye clocke in
the morning, ye Spaniards made false fires towards the north pt of the
Island, and in the meane while landed about two hundred men upon the
Easternmost pt of the Island. The Said Hutchinson keepeing his Ship so
long as any man Stood by him, at last went on Shoar wth the Governour,
to Save their persons from being prisoners ye Spaniards boarding ye
Shipp, ye Said Hutchinson retired into the woods, and approaching the Sea-
side came nigh Some of ye Spanish boates, demanding of them their Ad-
miral's name, and their reasons why they should come to destroy merchant-
men and fishermen, but would make not any answer thereto After ye they
had taken ye Said Hutchinson's Shipp and threw his Salt overboarde to
get her cleared of the Rockes, wch ye Said Hutchinson had runn her upon,
in two dayes tyme they rigged her and carried her away wth ye Said Katch
and three Sloops ye 17th day of ye Same Instant, wth about Seaventeen to
Eighteen Prisoners."

42 Tartans were small coasting vessels used in the Mediterranean, usually
lateen-rigged with a single mast and a bowsprit.

43 The "Burgonia flag" is a reference to the royal standard of Spain,
which Rivero was entitled to display on his frigate under the commission
granted him. It appears, however, that he had a penchant for flying
English flags to confuse and deceive his opponents.

44 PRO, CO 308/1. According to the colonial correspondence, the original
canvas challenge found nailed to a tree was sent by Modyford to the
Secretary of State, Lord Arlington so that he could make "a guess at the
man's vanity." A search in the Public Record Office by the author failed
to locate the original piece of cloth, which was allegedly inscribed in
Spanish and English.

45 An attempt to research particulars of the ship Hopewell produced the
following references from diverse sources:

A ship named Hopewell, Captain Thomas Wood, left England with passengers
for Barbados on 17 February 1634; a Hopewell of London, Master William
Bundocke, carried passengers to New England on 1 April 1635; a Hopewell
under Captain Thomas Babb made three voyages to New England on 28 July,
21 August, and 11 September 1635. John C. Hotten, Our Early Ancestors.
The Original Lists of Persons of Quality; . . . (New York, 1800).

Whether any of the above vessels is the same Hopewell that was taken prize at Little Cayman cannot be established. It is likely, however, that the following reference is to the same ship commanded by Hutchinson in 1670:

1656 August 5, Whitehall, "Warrent for Robt. Thompson and Francis Willoughby, Commissioners of the Navy to go aboard the Hopewell, Wm. Watts, master and see her speedily dispatched to Jamaica with the men and provisions for the State's immediate service." PRO, Ineregnum, Entry Book, Vol. CV, p. 310.

Included in "A List of what Shipps and Vessells have arrived in Port Royall Harbour from the 1st of January 1668 untill the 1st of January 1670," are the following ships:

Hopewell of 30 tons, master John Willoughby; Hopewell of 120 tons, master John Browne; Hopewell of 40 tons, master John Hall; Hopewell of 40 tons, master William Cave (perhaps the same vessel under a different captain); Hopewell of 30 tons (probably the same as previously commanded by John Willoughby); Hopewell of 30 tons, master John Bant (perhaps the same again); and Hopewell of only 8 tons, master John Michael. PRO, CO 308/1.

Research in the Spanish archives turned up a document listing two vessels named Hopewell that were captured from the English prior to 1671:

"Relación de las perdidas que los Ingleses han padecido a manos de Españoles en Indias Occidentales despues de entrada el Cavallero Don Thomas Lynch de el gobierno de Jamayca y haverse publicado allí la paz en 26 junio de 1671," ACT, Indiferente General 1611.

46 "Don Pedro de Ulloa a Su Magestad," Cartagena, 24 abril 1670, AGI, Indiferente General 2542.

47 Rivero's personal papers were examined when his frigate was later captured subsequent to his swaggering challenge to Morgan. Aside from the reprisal commissions, was a curious handwritten letter, penned in lyric style, which Rivero apparently was in the process of composing when he was attacked and killed. A brief extract deals with his raid on Cayman:

"Las Velas al mar hundoso, Venturing the sails on the deep sea,
Y surcando hasta el caiman, And sailing to the Cayman Islands,
hize de fuego un destrozo, I made a destruction of fire,
queme Casas y a Ruine, I burned houses and made ruin,
Con mi Pecho Baleroso, With my valorous breast,
a que toda la Canalla, all of the terrible mob,
terrible de mi nombre solo..." by my name alone...

Although the rhythmic tone is lost in the translation above, a literal version permits the reader to witness the ego of Rivero. His captured papers, and this incomplete poem were sent to England by Modyford, and are presently being kept in the Public Record Office, CO 1/25.
One of the ceramic sherds of the olive jar variety contained traces of a soft, black substance adhering to the interior to the fragment. Subsequent analysis proved the material to be pine pitch, commonly used as early as Classical Greek times to coat the inside of porous containers, such as earthenware amphoras, to minimize seepage of the contents. This practice apparently continued into colonial times, as indicated by the evidence from Little Cayman.

Ordinarily, organic matter, such as hemp rope, does not become encrusted like metal objects under water, which combine with sand and sediment to produce a hard, calcareous coating on the outer surface. Hemp cordage used for slow match, however, was soaked in a solution of sulphur and nitrates, which allowed the hemp to ignite and burn slowly for a long time. This solution probably accounted for the encrustation.

The matchlock was the first self-contained ignition system for firearms. Earlier hand weapons consisted of simply an iron tube set in a wooden stock. These pieces were ignited by applying a lighted slow match to the touch hole, much the same way cannon were fired. The gradual development of the matchlock in the 15th century alleviated the inaccuracy of these early hand cannon, which required two separate movements of aiming and firing. Now the match was set in a cock, or "serpentine," connected to a lever projecting under the gun butt; when pressed upward, the serpentine brought the match down into a pan which contained powder and ignited the charge in the barrel. The weight of matchlock muskets necessitated the use of a forked barrel rest to support the weapon as it was aimed and fired. Undoubtedly, the rest would have been dispensed with aboard ship, and the barrel positioned on the gunwale or some other solid structure. For all its advantages, the matchlock was not an ideal device. The necessities of keeping the match lit (especially in the rain), adjusting it constantly as it burned down, and the danger that a glowing match might reveal a gunner's position to the enemy at night, all contributed to produce other, more efficient firearms. The perils inherent in the operation of matchlocks at sea could only have added further disadvantages. Lighted matches would have represented an extreme fire hazard, especially when employed by musketeers perched in the highly flammable rigging during engagements with other ships.

Invariably found on archaeological sites associated with Spanish occupation, this widely distributed ceramic type known as the olive jar or botija appears to have been one of the most common containers for liquids and certain dry goods throughout Hispanic America. Examples, however, have also been found on Amerindian and English sites—a testimony to the practicality and durability of the form. Undoubtedly derived from the wine jars (amphoras) of classical antiquity, the vessels' distinctively rounded or pointed bases allowed convenient and compact storage when placed atop the shoulders of other jars aboard a ship. According to Goggin's typology of Spanish olive jars (which begs for revision), the example from Little Cayman corresponds in every way to Shape A of the Middle Style. This elongated form represents the largest of the Middle Style jars, with a capacity of approximately 16 liters, which corresponds to the Spanish standard measure of one arroba.
Although well manufactured, the interior of the vessel displayed a
small juncture seam (not to be confused with throwing marks left by the
potter's fingers), which revealed the manner in which the jar was made.
The body of the vessel was thrown in two sections, each separately on a
wheel. These were joined by kneading the still-moist edges and smoothing
the seam over with diluted clay. A thick, squat collared mouth was at-
tached to the neck of the jar, and the entire piece was fired in a kiln,
probably along with many others of the same style. Although the jar had
been adequately fired, two distinct bulges near the base indicated that
as the pot was thrown a small quantity of air became trapped in the
layers of clay. When fired, the air expanded and caused the side of the
jar's body to bulge outward. This oversight is a reflection of the haste
in production of this utilitarian ceramic industry. A carbon-darkened
discoloration of the middle layers of paste suggested that the jar had
been fired in a reducing atmosphere lacking oxygen for a long period of
time under slow heat. See John M. Goggin, "The Spanish Olive Jar," in
Indian and Spanish Selected Writings (University of Miami, Coral Gables,
1964).

52 "Richard Browne to Lord Arlington, aboard the Satisfaction frigate at
Hispaniola," 12 December 1670, PRO, CO 1/25. Surgeon Browne related how
the Spaniards left overboard into the water and were killed by Morris' men. Only four or five of Rivero's men survived by hiding in the hold
of the Spanish frigate, but they were captured when the ship was taken.

53 "Governor Modyford to Lord Arlington," 31 October 1670, PRO, CO 1/25.

54 This excerpt of the treaty is quoted in Williams, A History of the
Cayman Islands, p. 10.

55 The proclamation was recorded in the Minutes of the Council of Jamaica
on 12 August 1671, which proceeded as follows:
"Present, Sir Thomas Lynch, Knt., Lt.-Governor and four of the Council.
Ordered that, whereas there are divers soldiers, planters, privateers,
and other late inhabitants of this island now at Caymanos, Musphitos Keys
and other remote places, who made scruple of returning, either fearing
his Majesty's displeasure for their past irregular actions, or doubting
their being prosecuted by their creditors, the Governor sends forth to
declare his Majesty's pardon and promise of freedom from all arrests and
debts to said creditors &c., for a term of one year, provided they return
within eight months after the date hereof and enter their names in the
Secretary's Office, from which time their impunity shall commence; and
that this be proclaimed and a-fixed on some convenient place at Port
Royal." Calendar of State Papers, quoted in George S. S. Hirst, Notes on
the History of the Cayman Islands, (Kingston, 1910), p. 20. An attempt
by the author to locate the list of those who signed in at the Secret-
ary's Office upon their return to Jamaica failed to turn up such a doc-
ument in either the Jamaican National Archives or the Public Record
Office.

56 "At a Council helden at St. Jago de la Vega on Fryday, January 27,
1687," Calendar of State Papers, 1661-1736.


59 Oldmixon, British Empire, pp. 407-408.

60 Masefield, Dampier's Voyages, I, 399.

61 This episode is quoted in Parsons, Green Turtle, p. 23.


63 Long, History of Jamaica, p. 312.


65 A letter sent by an English missionary, Mr. E. Lockyer, to his principals in London in 1841, described the hostilities of the Spaniards in Cuba. "A Milita was first organized in the years of 1787 or 8 for the protection of themselves and families from invasion of the Spaniards who frequently made descents upon the west-end of the island burning and destroying their houses and other property and carrying the inhabitants captives to Cuba. The people here have suffered a great deal from the Spaniards of Cuba who appear to entertain feelings of animosity and revenge which they take every opportunity to execute. The people have been basely murdered, their vessels burnt and destroyed or taken into their ports and the crews imprisoned and vessels confiscated even in times of peace and without preferring any charges against them. They have frequently applied to the Government for a redress of these repeated injuries but somehow or the other no notice has yet been taken of their application." Lockyer's letter is quoted in E. F. Aguilar and P. T. Saunders, The Cayman Islands, Their Postal History, Postage Stamps and Postmarks (Grand Cayman, 1962), p. 11.

66 "Report on the Cayman Islands by Edward Corbet," West India Reference Library, Institute of Jamaica (herein after referred to as WIRL), Nugent Mss.,


68 Thomas Young, Narrative of a Residence on the Mosquito Shore (New York, 1971 [1847]), p. 17.

69 Edmund Parsons' descriptions of turtling on the Nicaraguan coast are included in Hirst, Notes, pp. 271-274.

71 Hirst, Notes, p. 251.

72 Ibid., p. 270.

73 Williams, A History of the Cayman Islands, pp. 69-70.


75 Thomas P. Rebel, Sea Turtles and the Turtle Fishery of the West Indies, Florida and the Gulf of Mexico (Coral Gables, Fla., 1974), pp. 122-123.

TURTTLING METHODS REFERENCES


5 Samuel Purchas (ed.), "Relations of Summer Islands, taken out of M. Richard Norwood, his Maps and Notes added thereto, printed 1622," in Hakluytus Posthumus or Purchas His Pilgrims (20 Vols.; Glasgow, 1909), IXX, 191-192.


7 "Shelling" turtles is described in George Ephraim Squier, Waikna or, Adventures on the Mosquito Shore (Gainesville, Florida, 1965 [1855]), p. 54.


9 Ibid., p. 344.

10 Ibid.


12 Mr. Lee Jervis, resident of Cayman Brac, personal communication, May 1980.
The water glass was usually a square wooden box with an open top and a pane of clear glass inserted into grooves at the bottom. The box was held on the surface of the water to act as a portable window into the sea.

Hirst, Notes, p. 276.

"But we don't keep the Hawk's-bills alive at all. We kills 'em right off, hand runnin', dries the meat an' sacks the shell for the Kingston market. A good Hawk's-bill gives us four to seven pound o' shell, worth mebbe twenty-five shil-lin's a pound. And there's the water-white shell, worth eight pounds a pound. That's rare though. We has to give them Nicaraguans two shil-lin's a head. Tortles is gettin' scarce now and business ain't what it used to be - not in that, nor on other way for Cayman. Nor, sor, not by a long chalk." This passage is quoted from a conversation with a Caymanian turtler in George England, "Grand Cayman," Saturday Evening Post 201:3 (July 21, 1928), p. 17.

Salt was obtained from the Turks and Caicos Islands via Jamaica, where hawksbill shell was sold. Occasionally, small amounts of salt were taken from limestone depressions in the ironshore of Cayman Brac, as the seawater evaporated from the heat of the sun.

Mr. Henry Watson, resident of Cayman Brac, personal communication, May 1980.
TURTLING VESSELS REFERENCES


3 See William A. Baker, Sloops and Shallops (Barre, Mass., 1966).

4 Ibid., p. 33. The Dutch craft would have been beamier than boats of the same type from other European countries.


6 Calendar of State Papers, Colonial Series, America and the West Indies, 1661-1675 (Her Majesty's Stationary Office, London, 1964 [1893]), "Sir Charles Littleton's proposal for a plantation for the King in Jamaica," 3 October 1664; also Public Record Office (PRO), CO 18/113.


8 Baker, Sloops, pp. 41-42.


10 The sloops were taken as prizes along with Hopewell and a "Katch." "Deposition of Samuel Hutchinson," 16 June 1670, PRO, CO 1/25.

11 The smallest ships in Morgan's fleet included:
The sloope William, Captain Thomas Woodriff, 12 tons, 30 men;
The Betty Sloope, Captain Thomas Curson, 12 tons, 25 men;
The Lambe Sloope, Captain Richard Powell, 30 tons, 4 guns, 30 men;
Le Serfe sloope, Captain Joseph, 25 tons, 2 guns, 40 men;
Le Lyon sloope, Captain Charles, 30 tons, 4 guns, 30 men.

"A List of the Shipps under the Command of Admirall Morgan, " 10 February 1670, PRO, CO 308/1

12 "An Account of Shipps etc., that Trade for Logwood at Campeachy and belong to this Harbour of Port Royal in Jamaica," 4 March 1670, PRO, CO 308/1
13 A "periago," "periagua," *piraguia*, or pirogue was a large canoe used in the West Indies in the 16th, 17th, and 18th centuries. Pirogues were fashioned from two hollowed logs, rather than one, as was the case with the ordinary dugout canoe. *Piraguas dobles* had two hulls with a connecting platform for heavy cargos. Timoteo O'Scanlan, *Diccionario Marítimo Español* (Madrid, 1974 [1831]), pp. 422-423.

14 Calendar of State Papers, "Deposition of John Dorell, of the sloop Blessing," and "Deposition of Boucher Clausen, of the sloop Hereford," 15 November 1684.


16 Ibid., "Captain Stanley, R. N., to Lieutenant-Governor Hender Molesworth," and "Deposition of Anthony Griffin, master of the sloop Prosperous," 15 November 1684.


18 Calendar of State Papers, quoted in Edwin Doran, "A Physical and Cultural Geography of the Cayman Islands," (Ph.D. diss., University of California, Berkeley, 1953), pp. 149-150.


21 Frederick Henrick Chapman, *Architectura Navalis Mercatoria* (Stockholm, 1707 [1768]), plate LVII.


23 Planking and other components that appeared to be either lodging knees or frames were measured and recorded. Although much discussion as to the orientation of the vessel was undertaken, the paucity of timbers made a firm decision as to which end of the site was the bow or stern impossible.


25 The vessel's armament and ground tackle were not found despite careful searching; cannon or anchors may have been salvaged shortly after the sinking.

26 Two iron barrel hoop fragments and ten earthenware sherds were recovered during test excavation. Eight of the sherds were of the Spanish olive jar variety, a common ceramic form in the Caribbean region; the two remaining sherds were not large enough to determine their typology.
Clay smoking pipe fragments, fish bones, and the pit of a plum or prune were recovered in situ from the test area.

A firebox was suggested by the discovery of a hand-molded brick with heat discoloration apparent of the surface; however, the brick may have been part of the vessel's ballast. The conclusion that the turtles were live is supported by the presence of carapace fragments and vertebral bones, which were normally discarded during the slaughter of the reptiles. Furthermore, no butchering marks were found on any of the bone samples. Had the live turtles not been bound by their flippers, they would have been able to escape as the vessel sank.


In his description of native Americans on the day following his first landfall in the New World, Columbus noted, "they came to the ship in dugouts with are fashioned like a long-boat from the trunk of a tree, and all in one piece, and wonderfully made (considering the country), and so big that in some came 40 or 50 men, and the others smaller, down to some in which but a single man came." Samuel Elliot Morison, Journals and other Documents on the Life and Voyages of Christopher Columbus (New York, 1963), p. 66.

Marshall B. McKusick, "Aboriginal Canoes in the West Indies," Yale University Publications in Anthropology 63 (New Haven, 1970) is one of the best essays on a topic which has been little explored. McKusick's research was based on European descriptions of native craft and anthropological investigation.

"Deposition of Samuel Hutchinson."

"Captain John Lawford to the Secretary of the Admiralty," 13 February 1794, PRO, ADM 1/2059.


A discussion of intercourse between the Cayman Islands and the Bay Islands of Honduras is found in William V. Davidson, Historical Geography
of the Bay Islands, Honduras (Birmingham, Ala., 1974), pp. 74-79.

36 Ephraim G. Squier, Waikna or, Adventures on the Mosquito Shore (Gainsville, Florida, 1965 [1855]), p. 58.

37 Thomas Young, who was sent to Honduras by the British Central American Land Company in 1839, recorded his experiences and observations for the benefit of prospective settlers. Explaining the differences between the native watercraft, Young claimed that, "... doreys built of cedar, are liable to split from stem to stern on beaching, even although protected by knees, but they do not take the worm so much as mahogany doreys, which if kept in the water for a short time, will soon be spoilt; mahogany doreys however do not split. Doreys made from tuberose for sea service, are decidedly the best, and are used by Caribs." Thomas Young, Narrative of a Residence on the Mosquito Coast . . . (New York, 1971 [1847]), p. 76.

38 Mr. Ashlan Foster, resident of Cayman Brac, personal communication, May 1980.

39 Mr. Lee Jervis (son of Captain Daniel Jervis), resident of Cayman Brac, personal communication, May 1980.

40 Ibid.


44 Neville Williams, A History of the Cayman Islands (Grand Cayman, 1970), p. 35.


46 Mr. Ashlan Foster, personal communication, May 1980.

47 Hirst, Notes, p. 267.

48 Captain Keith Tibbetts, resident of Cayman Brac, personal communication, May 1980.

49 Ibid.
50 Ibid.


52 Hirst, Notes, p. 267.

53 Captain Keith Tibbetts, personal communication, May 1980.

54 Ibid.

55 Ibid.
WRECKING REFERENCES

1 An early 18th-century English publication relating to the West Indian trade discusses these advantages, pointing out that the first part of the passage from Port Royal to Morant Point (the eastern extremity of Jamaica) alone, "often detained Ships for a Month or six Weeks successively; after suffering a great Deal of Damage." A Description of the Windward Passage (London, 1720), p. 14. This work also contains an indexed map of both the Yucatan and Windward passages, as well as several political proposals to overturn the Spanish trade monopoly, "for the better securing of the British Trade and Navigation to and from the West Indies."

2 Spanish sailing directions for the West Indies, recently translated from archival sources, directed pilots entering the Caribbean Basin from the Atlantic Ocean to, "turn to the northwest continuing along the coast as far as Cape Tiburon [Haiti]. Having gone beyond it, you shall steer to the north in search of Los Alteves or Puerto de Cuba [southeast approach to Cuba] and, having recognized it, you shall steer west one-quarter southwest until you sight Cabo Cruz and little Cayman Island. And from there you shall steer west and find Grand Cayman Island." David McDonald and J. Barto Arnold, Documentary Sources for the Wrecks of the New Spain Fleet of 1554 (Austin, Texas, 1979), p. 309.

3 Windward Passage, under the index listing No. 79, entitled "Great Carmanis," the southern approach to this landmark is described.

4 The problems of longitudinal positioning of the Cayman Islands seem to have continued until finally corrected at the insistence of Royal Navy captains cruising the West Indian station. One Captain Lloyd wrote in his remark book, "the Parnhian quitted Port Royal on the 2nd of November 1820, and passed the Grand Cayman on the 4th . . . The position of this Island as it is laid down in the Admiralty Chart furnished to the Ship, appears to be incorrect. When the Otna . . . [the remainder of the name is illegible] approached it from the Northwestward in September last, the Chronometer as well as Dead Reckoning, were for the first time very considerably out. And in the present instance where the Ships course is from the SE, the excess of Longitude corresponds with the observed in the former case which in both Tracks would have placed the Vessel in the body of the Island." "Remarks of His Majesty's Sloop Parnhian," 20 September to 31 December 1820, Ministry of Defense, Hydrographic Office, Miscellaneous Papers, Vol. 47.

5 Tomás de la Torre, Desde Salamanca, España hasta Ciudad Real, Chiapas. Diario del viaje 1544-1545 (porlogo y notas de Franz Blom 1944-1945, Mexico City, n. d.), p. 114. The trials and tribulations of Hispanic missionary endeavors in the New World often began with the voyage
itself, as is demonstrated so graphically in this case.

6 Joannes de Laet, *Het Laerlyck Verhael van de Verrichtinghen der Geostroyeerde West-Indische Compagnie* (13 Vols.; 's-Gravenhage, 1931-1937), VII, 173. Admiral Paters, who left the Netherlands with 11 ships, 842 sailors, 326 soldiers, 117 bronze guns, 506 iron guns, and provisions for 16 months, clearly meant business. His was part of a master plan to delay or capture the Spanish treasure fleet near Havana. Pater's fleet was to be reinforced along the way by 13 additional vessels.

7 Captain Charles Johnson, *A General History of the Pyrates* (University of South Carolina, Columbia, 1972 [1774]), p. 294. "Captain Johnson" was a pseudonym of the celebrated writer, Daniel Defoe.

8 H.M.S. Convert, formerly the French Inconstant, was captured by Penelope and Iphigenia off Santo Domingo on October 29, 1793. John Colledge, *Ships of the Royal Navy. An Historical Index* (2 Vols.; London, 1969), I, 135. As a fifth rate frigate, the Convert was put into service almost immediately as a convoy escort. According to Falconer, "vessels of the fifth rate are too weak to suffer the shock of a line of battle; but they may be destined to lead the convoys of merchant ships, to protect the commerce of the colonies, to cruize in different stations, to accompany squadrons, or be sent express with necessary intelligence order." William Falconer, *Falconer's Marine Dictionary* (London, 1970 [1780]), pp. 237-238.

9 "Captain Lawford to Phillip Stephens, Esq., Secretary of the Admiralty," 13 February 1794, PRO, ADM 1/2059. Lawford had instructed his convoy to keep astern of the Convert, the faster ships shortening sail so as not to outrun the slower vessels. A schooner in distress has caused the convoy to lay to for several hours after leaving Jamaica, and in the afternoon Lawford again took the lead as the convoy resumed sail. The schooner called again for assistance, causing the Convert to wear ship and fall back to her aid. This circumstance prevented the convoy from making land (Cape Corrientes) before dark, as Lawford had originally planned. Rec- onning that the ships had passed to the south of the Caymans, the course was changed to W.N.W. and the convoy carried on after nightfall. At three o'clock in the morning, a distress signal was again heard, this time to leeward. The Convert ran down toward the sound of the signal gun, and in Captain Lawford's words, "On my going on deck instantly after this I found that the guns had been fired by a ship ahead and that several ships of the convoy had run ahead since 12 o'clock. I had not been on deck a minute before one of the men who were up loosing the topsails called out 'breakers a head - close to us.' As the breakers appeared in every direction and as I could not tell from the darkness of the night to what extent they might run, I immediately deemed it expedient to make the signal for the convoy to disperse and do the best for their own safety that their own judgement could suggest, and as the topsails were now sheeted home and the Convert certainly cleared the breakers if a Ship a head had not unfortunately fallen onboard of us, and before it was possible to extricate ourselves we got so near to the breakers that all hope of clearing vanished and She in a few moments
struck... I have since learned that five or six others went ashore before Her."

10 "At a Court Martial assembled & held on board His Majesty's Ship Success in Port Royal Harbour Jamaica upon the 18 day of April 1794," PRO, ADM 1/5531. The sailing master of the Convert, Mr. Thomas Popplewell, was examined by the Court in an attempt to establish the cause of the navigational error and subsequent loss of the frigate. Although the log book was discovered to contain an omission of the logged distance the day before the disaster, Popplewell blamed the currents, declaring, "I have since understood from the Different Masters of Vessels who have gone down to the Caymans from Jamaica for the purpose of carrying away the wreck of the Cargoes, that they had been considerably set to the Northward by Currents; the particulars of which are well known to the Officers of the Convert."


13 Mr. Marshall Watler, resident of Grand Cayman, personal communication, July 1980. The Ridgefield was originally commissioned the James A Butts. During World War II, she was almost struck by a Japanese torpedo in the South Pacific, and later survived an air raid in the Phillipines. Sold several times, she was en route from Panama to Galveston when she was wrecked in the Cayman Islands. George I. Hudson, An Adventurer's Guide to the Unspoiled Cayman Islands (Miami, 1973), pp. 278-279.

14 The 240 foot long Rimandi Mibaju was built in Superior, Wisconsin for the Great Lakes ore trade. Ibid., p. 140.

15 De Laet, West-Indische Compagnie, IX, 119. The Amersfoort returned to the fleet off Havana with two of the Dolphin's guns. De Laet failed to mention if these were all that remained on the Island.

16 The Dolphin, a frigate of 60 tons, carried 10 guns and 60 men on the raid of Panama. The Lilly was a smaller frigate of 50 tons, but carried 50 men and 10 guns. "A List of Shipps under the Command of Admirall Morgan," PRO, CO 308/1.

17 Calendar of State Papers, "Sir Thomas Lynch to John Williamson," 27 January 1672.


19 Calendar of State Papers, 24 December 1730.

20 "Governor Hunter to the Duke of Newcastle," 18 January 1730, PRO, CO 137/54. Included in this correspondence is an affidavit, in which it appears that others had also been plundering the wreck: "Affidavit of Martin Admunson that Mr. Colin Campbell embark'd in a Sloop, Wm. Dove,
master, from the wreck of the said brigantine loaded with wine and brandy with the consent of Admunson in order to deposit the same in the hands of the Government for the benefit of His Cathlik Majesty, which the Sloop was likewise cast away, and Dove and others took out her loading, part of which wine and brandy have been seized by the Naval Officer etc., and whereas it appears by the same affidavit that Thomas Ware and James Jorden loaded their vessels from the St. Michael with wine and brandy etc., . . . which H. E. has ordered to be seized at the petitioner's re-
quest."

21 The San Miguel was en route from Cadiz to Vera Cruz in convoy with the New Spain flota when she wrecked. Her cargo registry indicates that, aside from fresh fruit for the fleet, she was loaded with 1,091 barriles of aguardiente (brandy), 158 barriles and 36 pipas of wine, as well as some minor cargo. "Registro del Bergantín San Miguel," Archivo General de Indias (AGI), Contratación 1326.


23 This passage is quoted in Williams, A History of the Cayman Islands, p. 21.

24 "Captain John Lawford to Secretary of the Admiralty," 13 February 1794, PRO, ADM 1/2059.

25 "Inhabitants of the Island of Grand Camaneees to Captain Lawford," 12 February 1794, PRO, ADM 1/2059.

26 "Report on the Cayman Islands by Edward Corbet," 1802, West India Reference Library (WIRL), Nugent Mss.

27 "Muster Roll of Her Majesty's Ship Convert," PRO, ADM 36/11476. Included in the muster were 29 marines, eight invalids of the 1st Regiment of Foot and the Royal Artillery, and one prisoner. At least one man, Thomas Dovlin, died in the disaster and was buried on Grand Cayman. Twenty-two additional men are listed as deserting and probably remained on the Island.

28 "Captain Lawford to His Excellancy the Governor of Havannah . . . ," 13 February 1794, PRO, ADM 1/2059.

29 Mrs. Hebe Foster, resident of Cayman Brac, personal communication, May 1980.

30 Waddell, Twenty Nine Years, p. 216.


32 Ibid.

33 Waddell, Twenty Nine Years, p. 214.
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APPENDIX I

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APPENDIX II

**Lieutenant Alfred Carpenter's Observations**

In 1880, the Royal Navy survey schooner H.M.S *Sparrowhawk* was detailed to conduct a hydrographic survey of the Lesser Cayman Islands and the Pedro Banks to the south of Jamaica, for the purpose of drafting an Admiralty chart for each area. Lieutenant Alfred Carpenter, the officer in charge of the expedition, and his men spent several weeks on and around Cayman Brac and Little Cayman making celestial observations, turning angles, sounding water depths, and recording geophysical features of the Islands. By the time their work was completed, Lt. Carpenter had to requisition new boots for his men because those that had been issued to them had rapidly worn out on the ironshore of the two islands. The results of the survey produced the first navigational chart of this remote area—a chart which is the only one available today, although subjected to revisions and an American version, which includes more topographic detail. This initial survey bequeathed the name Sparrowhawk Hill to a slight elevation on Little Cayman, but has generally been forgotten or overlooked in the popular annals of the history of these islands.

Research conducted by the author at the British Ministry of Defense Hydrographic Department in Taunton, Somerset unearthed the records and handwritten reports of this survey. Among them, the following account is of interest to the study of the Caymanian heritage:
Further Information - Lesser Caymans

The inhabitants of these two islands are all tall, large boned Scotchmen, slow of speech, & careful of their money -

The chief families are the Scott's, Foster's, Ryan's & Hunter's, & they are all at daggers drawn.
They multiply very fast & are careless of their children's future -
The women are very reticent -
The population is about 300 of which 100 are children -
They are friendly to strangers & anxious to trade -
Their livelihood depends on the capture of turtle, Loggerheads being the most common, then hawksbill & the green turtle -
The tortoise shell of the hawksbill & the soup meat & eggs of all are cured & carried to Jamaica Markets by schooners -

The bush has been cleared in places & yams, bananas & sugar cane grown -
Only the first of these really flourishes & they are finer even than the Jamaica Yam.

The men work in companies turning turtle & fishing at Little Cayman, but residing on Cayman Brac where the plantations are -
The turtle nets are buoyed with imitation carved wood turtles and require to be carefully avoided when approaching an anchorage -

The islanders did a good deal of wrecking at one time on the Cuban coast but have been made to desist during the disturbed state of that island. It does not appear that they were in any way dishonest about that occupation -

There is some trade done with America in Cocoa-nuts -

From May till November the mosquitoes are very bad, and flies at all times of the year swarm about the islands finding ready food in the dead and dying flesh of the loggerhead turtles which are little eaten -
The Lion Lizard, a scaly species that carries its tail curled over its back, a few grasshoppers, & the soldier crab are the only numerous animals about -

The Bush consists of Aloes, Cactuses, Sea Grape, Mangrove, a soft-beech, a little Mahogany and Candle Wood trees, all the trees being loaded with orchids -

Alligators or Caymans are on record only, & probably found their way here on drift wood of which the Southern coasts & Eastern points are covered.

The Chisel beach which is thrown up at various parts of these islands is a very remarkable collection of coral boulders & nodules combined with drift wood, seeds, conch shell & marine vegetation.

[signed] Alfred Carpenter Lieutenant in Charge

MDHD, OD 505, "Sailing Directions for the Lesser Cayman Islands."
VITA

Roger Craig Smith was born in Salt Lake City, Utah on May 3, 1949, the son of Maxine Shelton Smith and David Wilken Smith. He spent his early years in Europe and the Far East, returning to the United States to complete school at Washington-Lee High School in Arlington, Virginia in 1967. He received a bachelor of arts degree with a major in literature and a minor in art history from the University of Virginia in 1971. Granted status as a conscientious objector to the war in Vietnam, he worked for two years of alternative service in a hospital for crippled children. In 1973, he attended and graduated from the Commercial Diving Center in Wilmington, California and moved to Florida, where he ultimately held a position with the Underwater Archaeological Research Section of the Florida Division of Archives, History and Records Management. In 1976, he married Karen Christine Westburg, a photojournalist from California. In January 1978, he entered the Graduate College of Texas A&M University to study nautical archaeology in the Department of Sociology and Anthropology. He was asked to serve as the Western Hemisphere news editor for the International Journal of Nautical Archaeology in 1979. During the same year, he was appointed a research associate of the Institute of Nautical Archaeology at Texas A&M and was invited to direct a two-year field project in the Cayman Islands. In connection with his interest in archaeology, he has worked on numerous sites in the United States, Mexico, Kenya, and several West Indian countries. His permanent address is: 4117 Morin Street, Alexandria, Virginia 22312.