

Léanna Frafjord Saint-Victor

# Memoir of a Caribbean Mermaid

A Historical Ecology Study Exploring the  
Changing Perspectives and Human Exploitation  
of Manatees in the Caribbean

Master's thesis in Archaeology

Supervisor: James H. Barrett

May 2024



"Memoir of a Caribbean Mermaid", collage by author.



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Faculty of Humanities  
Department of Historical and Classical Studies



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## Abstract

This thesis will focus on the historical ecology of the wider Caribbean region, exploring the changing perceptions and human exploitation of manatees. Central to the research is understanding how socio-economic and cultural forces influenced manatee exploitation before and after European colonization. The study draws information from datasets on published literature, archaeological artifacts, zooarchaeological material, historical mentions, trading records and contemporary perceptions, all centered around the manatee as a research subject. My aim is to further our knowledge of the socio-economic and cultural factors that drove, limited, and allowed for the exploitation of manatees in the Caribbean, and the consequences thereof. This goal will be achieved through a three-step process involving a literature review, three case studies examining the different patterns of manatee utilization in Maya, Taíno, and European societies, and a study questionnaire on current knowledge of the manatee, predominantly focused on Haiti. I will analyze evidence of changes in manatee consumption and distribution pre- and post-colonization to uncover patterns in exploitation. Furthermore, I will examine the cultural and historical significance of manatees among the Taíno, Maya, and other Caribbean communities to understand variations in attitudes and practices related to manatee utilization. Finally, I will discuss how we can integrate current knowledge of the manatee to inform conservation efforts and cultural revitalization within the Caribbean. This research provides insight regarding the complex relationship between humans and marine resources, with broader implications for societies and marine ecosystems.

**Keywords:** Historical ecology, Caribbean archaeology, conservation efforts, cultural revitalization, manatees, colonization, socio-ecological considerations



## Sammendrag

Dette prosjektet skal undersøke historisk økologi i Karibia, med fokus på menneskelig utnyttelse og oppfatninger av sjøkuen. Forskningen søker å forstå hvordan sosioøkonomiske og kulturelle krefter har påvirket bruk av sjøku før og etter europeisk kolonisering. Studien benytter seg av en rekke datasett, inkludert litteratur, arkeologiske funn, zooarkeologisk materiale, historiske sitater, handelsopptegetninger og nåværende oppfatninger, alle med sjøkuen som sentralt forskningsobjekt. Målet er å utvide vår forståelse av de sosioøkonomiske og kulturelle faktorene som har drevet, begrenset og tillatt utnyttelsen av sjøkuer i Karibia, samt konsekvensene av dette. Dette skal gjøres ved hjelp av en tredelt prosess som involverer en litteraturgjennomgang, tre case-studier som undersøker mønstre i sjøku-utnyttelse blant Maya, Taíno og europeiske samfunn, og en spørreundersøkelse om nåværende kunnskap om sjøkuen, hovedsakelig i Haiti. Jeg skal analysere bevis for endringer i sjøku-forbruk og distribusjon før og etter kolonisering for å avdekke utnyttelsesmønstre. Videre skal jeg undersøke sjøkuens kulturelle og historiske betydning blant Taíno, Maya og andre karibiske samfunn for å bedre forstå variasjoner i holdninger og praksis knyttet til bruk av sjøku. Til slutt skal jeg diskutere hvordan vi kan bruke dagens kunnskap om sjøkuer til å informere om bevaring og kulturell revitalisering i Karibia. Målet med forskningen min er å gi innsikt i det komplekse forholdet mellom mennesker og marine ressurser, og de mulige implikasjonene dette kan ha for både samfunn og marine økosystemer.

**Nøkkelord:** Historisk økologi, Karibisk arkeologi, bevaringsarbeid, kulturell revitalisering, sjøku, kolonisering, sosioøkonomiske hensyn



## Preface

During my preliminary search for a topic for my master's thesis, the exploration of aquatic mammals in distant oceans was not in my initial plans. However, during my interactions with potential supervisors, James H. Barrett proposed an intriguing idea upon learning about my familial connections to Haiti and the Caribbean. Through the 4-Oceans project, I was offered the chance to delve into the significance of manatees in the Caribbean — an opportunity I seized due to its alignment with my personal heritage. This decision has proven rewarding, as the past two years have been filled with fun experiences, new connections, travels to Bergen and Lisbon, and a broadening of my knowledge base.

Reflecting on my upbringing, I often recall a piece of advice passed down from my father's grandmother: "L'excès en tout nuit", roughly translated to the fact that excess in everything could do more harm than good, or simply put "Balance is Key". This childhood memory surfaced frequently as I did my research on the historical use of manatees, highlighting the potential wisdom of moderation in past societies.

My investigation also provided insights into my own roots. Conversations with my grandfather revealed our Taíno heritage through a figure named Brutus — a great-great-grandfather born of West-African and Taíno lineage. Legends of Atabey, Mami Wata, the revered cacica Anacaona of Jaragua, and the mystique of vodou, Iwa's and vèvè's, particularly La Sirène, deepened my understanding of Caribbean culture. Additionally, making connections with previously unknown family members proved invaluable, helping in data collection. Supplied with this familial oral history and contemporary knowledge, informed by my Haitian heritage, I bring a unique perspective to this study.

### **Notice Regarding Word Count Extension (word count: 30 978)**

A central goal of this thesis is to achieve an interdisciplinary understanding of human-manatee interactions that draws on a study of historical sources, artefacts, zooarchaeological evidence and a primary survey of modern perceptions. Coverage of these multiple sources was not realistic within the normal word limit. Thus, an extension of the word count has been approved by my supervisor, James H. Barrett. This extension allows for a more thorough exploration of the issues, furthering scholarly discourse and aligning with the broader research agenda of 4-Oceans.



## Acknowledgments

During my two years as a master's student, I have had the chance to meet, talk with and learn from several experts in their respective fields. I feel fortunate to have had these opportunities and want to thank my supervisor, James H. Barrett, for suggesting I join the 4-Oceans team and work on this thesis topic. I appreciate all the help he has provided.

I also want to thank Lydia H. Furness, who despite her project being more focused on dugongs, provided me with advice and allowed me to visit her team in Oslo, and Danielle Buss, who I've had some fantastic conversations with and who gave me feedback at the beginning of my journey. From 4-Oceans, a special thanks goes to; Cristina Brito, Jaime Silva, Bernard Allaire, and Eva Jobbová who provided me with insights and new sources of information. Through the workshops I attended with the rest of the 4-Oceans teams, I was able to access a much broader network of information than I would have otherwise.

Thanks to Marek E. Jasinski, I was able to meet Jo Sindre P. Eidshaug, who handed me a mountain of articles and books on the Maya. Through the help of Hanneke J. M. Meijer, I was able to access and examine the osteoarcheological remains of two manatee specimens at the University of Bergen (UoB). A fellow student, Krister M. Sørsæther, helped me create photogrammetry of the pictures I took at UoB.

I also must thank several external people, experts, and professors who answered my emails as I was reaching out and gathering information; Corinne L. Hofman, Gene Shev, William F. Keegan, Michelle J. LeFebvre, Sandrine Grouard, Elizabeth Reitz, Noémie Tomadini, Scott Fitzpatrick, Lourdes Perez Iglesias, and many more. A special thanks goes out to Lucy Keith Diagne, who assisted me in establishing contact with Helene Marsh and Anmari Alvarez-Aleman – the co-chair and editor of the newsletter Sirenews. Through my submission to Sirenews, I got in contact with its founder, Daryl P. Domning, who provided me with many useful sources.

For my survey process, I extend my gratitude to Jørgen S. Yri and Stefan Fongen who helped in the initial stages. A big thank you goes out to my father who helped me make contacts in Haiti through family friends, and Yanirac Domingues Tørkli who improved my Spanish translation of the survey. The biggest thank you, however, goes to Ingvill Konradsen (director of Prosjekt Haiti) and her colleague Marie Danielle Dorvilier, and Jean Wiener (director of Fondation pour la Protection de la Biodiversité Marine) and his two field assistants and team members Widlin Florvil and Jean Ernes Felix. Without their help in collecting data and conducting interviews in Haiti, I would never have managed to finish this survey.

"*Tusen takk*" to my professors, friends, and fellow students who supported, provided insight, and helped throughout this whole journey. Finally, I can't thank my family enough for always being there and being available when needed.

*Taino-ti'*: "May the Good Great Spirit be with you!"





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## List of Abbreviations

**BTM:** Bared Teeth Motif

**Dataset ID:** For simplicity in referencing dataset IDs, I have adopted a shortened format. Each reference begins with the corresponding appendix number in Roman numerals, followed by the dataset ID number, facilitating easier access, and minimizing confusion during in-text references. For example, II41 would correspond to all datasets with the number 41 in appendix II, and so forth.

**Dates:** I employ abbreviations such as BC (Before Christ), AD (Anno Domini), BCE (Before Common Era), and CE (Common Era) for chronological references.

**ERC:** European Research Council

**FoProBiM:** Fondation pour la Protection de la Biodiversité Marine

**MNI:** Minimum Number of Individuals

**NISP:** Number of Identified Specimens

**SBS:** Shifting Baseline Syndrome



# Part I: Introduction

## 1.1 Statement of the Problem

The manatee, as a keystone species, plays a pivotal role in shaping the ecosystems it inhabits. My thesis will investigate the historical utilization of the Antillean manatee (*Trichechus manatus manatus*) by prehistoric Indigenous peoples, historic European colonists, and modern populations, examining patterns through archaeological and historical lenses. Situated within a framework of historical ecology, the research centers on the wider Caribbean region. It aims to interpret the human use of manatees, the consequences thereof, and the significance of these animals to cultures such as the Maya and Taíno, as well as to Europeans pre- and post-colonization.

The perceptions of manatees vary across the Caribbean, with diverse cultural communities attributing various meanings and uses to the animal. In Taíno societies, manatees held ritualistic importance, while ancient Maya hunted them for both spiritual and dietary purposes. Many of the indigenous communities in the region bestowed mythological and medicinal properties upon them. Since the era of European colonization, manatees have assumed additional mythical value and even transformed into a versatile commodity for a period. The encounter with European colonists prompted inquiries into their origin, utility, and ecological significance. Initially admired or feared, manatees soon became subjects of hunting as colonial expansion progressed,

leading to the exploitation of natural resources in many places. Historical records indicate that indigenous communities also hunted manatees, albeit not to the same extent as the Europeans. Evidence for these assertions can be found in Portuguese, French, and Spanish documentary sources from the Americas (Vieira & Brito, 2017, pp. 514-515).

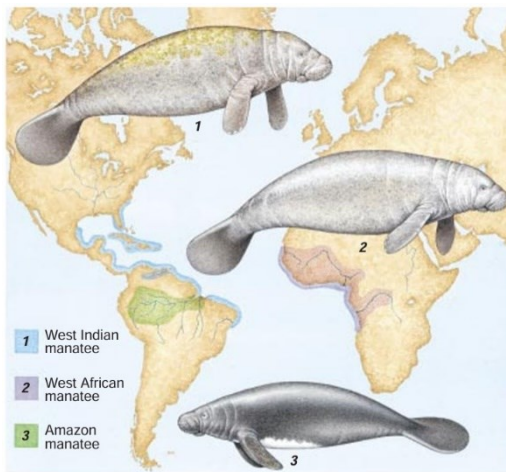


Figure 1. The different species of manatee. Source: O'Shea, 1994, p. 71, Scientific American, Inc.

Ecologically, manatees function as essential primary consumers – keystone species

– and their decline signals broader changes in the ecosystem (Kashyap et al., 2023). Historical and zooarchaeological data can serve as references for assessing the status of species and formulate conservation and management objectives. Previous research on marine species such as the Antillean manatee has depended on naturalists' observations, gray literature, and fishers' anecdotes to reconstruct population sizes and trends, with emphasis on historical periods preceding modern times (Dominguez Tejo, 2016; Khalsa, 2014; Vieira & Brito, 2017). While formal catch and faunal records for Antillean manatees are lacking, historical accounts indicate their presence in the diet of both indigenous peoples and European settlers who arrived in the Caribbean following Columbus' voyages. Descriptions of manatees exist in records of European chroniclers from the 15<sup>th</sup> to 19<sup>th</sup> centuries, and archaeological studies offer additional insights into their past utilization (Dominguez Tejo, 2016; Khalsa, 2014; Vieira & Brito, 2017).

## 1.2 Background and Need for the Study

The background for this study ties in with the ERC Synergy project 4-Oceans; A Human History of Marine Life c.100 BCE to c.1860 CE whose goal is to “assess the importance of marine life for human societies during the last two millennia, [...] through cutting-edge primary research on 10 key (sometimes keystone) taxonomic groups that have been major targets of exploitation and/or are especially sensitive indicators of past human disturbance” (European Research Council, 2020; Norwegian University of Science and Technology).

### 1.2.1 Historical Background

The human-manatee relationship in the Caribbean is rooted in the cultural practices and historical background of the region. The Taíno share similarities with Mesoamerican civilizations, like the Maya, and are characterized by distinctive ideologies, iconography, and ritualistic practices (Khalsa, 2014). Ethnohistorical accounts compiled by missionaries during the contact period provide insight into indigenous societies, offering information on their behaviors, ceremonies, and beliefs.

Throughout history, manatees have been hunted by native peoples and exploited by Europeans, their commercial exploitation driven by their perceived value and convenience (Bertram & Bertram, 1964). Despite their historical abundance in the Caribbean region, there

## Taxonomy

Manatees (order of Sirenia), represent a group of five aquatic, herbivorous mammal species: 1) the dugong (*Dugong dugon*); 2) the African manatee (*Trichechus senegalensis*); 3) the Amazon manatee (*Trichechus inunguis*); 4) the West Indian manatee (*Trichechus manatus*), sometimes classified into Antillean and Florida subspecies (see figure 1 and table 1); and 5) the extinct Steller's sea cow (*Hydromalis gigas*) (Vega, 1990). Occupying tropical and subtropical Atlantic coastal waters, estuaries, mangroves, and river basins, manatees are known for their large size and weight, normally around 3 m long, weighing around 500 kg (Vieira & Brito, 2017).

Order	Sirenia
Family	Trichechidae
Genus	<i>Trichechus</i> Linnaeus, 1758
Species	<i>Trichechus manatus</i> Linnaeus, 1758
Subspecies	<i>Trichechus manatus manatus</i>

Table 1. Taxonomy, Antillean manatee.

has been a notable decline in populations since the late 1800s, with manatees becoming relatively rare by the end of the 20<sup>th</sup> century (Mignucci-Giannoni et al., 2000). The historical alteration of Caribbean Island ecosystems due to the introduction of European agricultural technologies, extensive land clearing, and the Columbian exchange further impacted manatee populations. Despite their ecological significance, these large marine vertebrates are markedly less abundant today compared to historical records at the time of European contact (Mignucci-Giannoni et al., 2000).

Antillean manatees are currently listed as endangered on the IUCN Red List of Threatened Species. In most Caribbean countries, remaining manatee populations are believed to be small and declining, with anthropogenic threats such as fisheries and global warming posing a challenge to their survival (Dominguez Tejo, 2016) (see figure 2). This underscores the need to better understand the historical interactions between humans and manatees and its implications for conservation and ecological sustainability in the Caribbean.

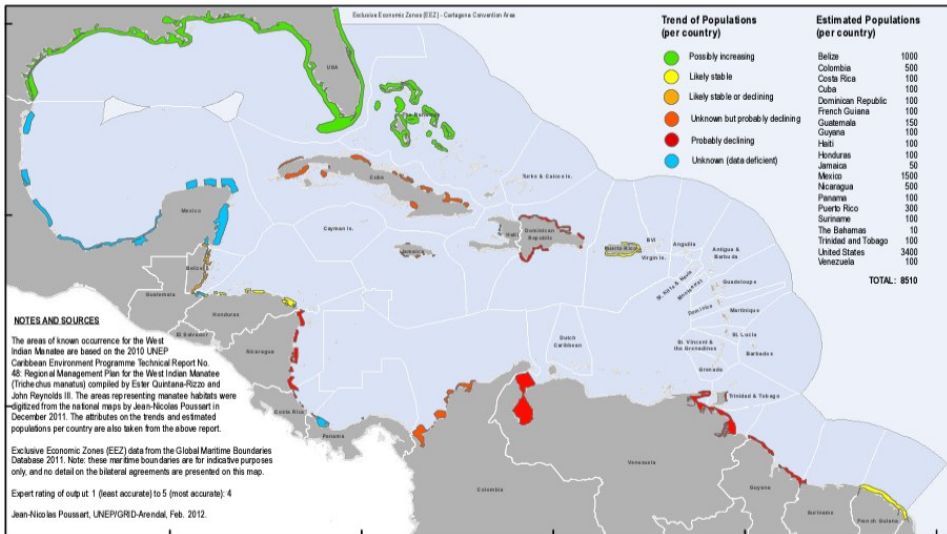


Figure 2. Status and population trend of the West Indian manatee. Source: CAR-SPAW-RAC. 2010-2012 UNEP Caribbean Environmental Programme Technical Report No. 48, compiled by Quintana-Rizzo and Reynolds III. Jean-Nico les Poussert UNEP/GRID-Arendal, Feb. 2012.

## 1.2.2 Research History and the Current State of Caribbean Archaeology

The study of the human-manatee relationship in the Caribbean is situated within a context of evolving research practices and interdisciplinary approaches. Pre-Columbian Caribbean archaeology, once focused on neatly defined archaeological cultures following socio-political evolutionary models, has gone through a significant transformation. Scholars are today reevaluating long-held beliefs and organizing collaborations (Mol, 2011a) through groups like The International Association for Caribbean Archaeology (IACA). This shift has led to furthering the understanding of the human impact on marine environments in the region.

Historically, it was believed that prehistoric peoples in the West Indies had little to no impact on marine ecosystems. However, archaeological, and historical ecological research challenges this notion, revealing the ecological consequences of human activities, albeit minor compared to European colonization (Fitzpatrick et al., 2008). The exploitation of marine resources, particularly large herbivores like manatees and turtles, has led to major ecological shifts, with invertebrates and small fish now dominating Caribbean ecosystems (Fitzpatrick et al., 2008).

Documentary and iconographic sources from European explorers provide insight regarding the changing relationship between humans and manatees. These sources depict the role of manatees in medicine, utilitarian tools, rituals, and food. However, systematic research on manatees did not emerge until the late 18<sup>th</sup> century, driven primarily by economic and symbolic interests (Brito, 2019). The exploitation of manatees intensified over time, leading to overexploitation and the subsequent decline in population numbers (Brito, 2019). Scientific investigations on Antillean manatees first began in 1962 with pioneering studies conducted by Drs. Colin Bertram and Kate R. Bertram in the Guianas (Self-Sullivan & Mignucci-Gionanni, 2012). Since then, research on the manatee grew at a rapid pace.

In parallel, Caribbean archaeology has made noteworthy progress in understanding the cultural practices of indigenous peoples such as the Taíno and Maya, who have left behind a rich archaeological record, including artifacts that provide glimpses into their way of life and belief systems. Amerindian object collections indicate the cultural significance of manatees, with items made from manatee bone found in ritualistic, funerary, and daily contexts (see appendix III). Efforts to interpret Taíno iconography as ideographic expressions have contributed to a better understanding of their cultural heritage and political development (McGinnis, 1997; McKillop, 1984: 1985; Moravetz, 1999).

Despite growing interest in manatee research, there remains a shortage of zooarchaeological studies in the Caribbean. This lack of research may be attributed to the scarcity of manatee bones in archaeological collections or a prioritization of other archaeological discoveries. Incorporating a zooarchaeological approach could enhance our understanding of manatees' role in social dynamics, cultural identity, and ritual settings (Gifford-Gonzalez, 2018; Khalsa, 2014).

In previous reviews and conservation plans for the West Indian manatee the understanding of Antillean manatees, derived from archaeological studies and historical documents, remains fragmented and underutilized (Lefebvre et al., 2001; UNEP, 2010). Notably, there is a lack of a comprehensive database compiling manatee records for Haiti. In 2016, PhD candidate Haydée M. Domínguez Tejo authored a comprehensive overview of past research on manatees titled "Distribution and Conservation of the Antillean Manatee in Hispaniola", which coordinated a systematic review of documentary sources dating back to the pre-Columbian era (-2013). This study represented a big

step forward as it evaluated the status of the species on the island, addressing a long-standing gap in research. Prior to this effort, the situation for manatees in Haiti had not been assessed since 1982-1983 (Rathbun et al., 1985 in Domínguez Tejo, 2016), and only one other manatee habitat modeling study had been conducted in Hispaniola (Domínguez Tejo, 2016). Despite historical declines in manatee populations, the present status of manatees remains inconclusive due to insufficient scientific information (see figure 2), as research and conservation efforts have been irregular and poorly documented (Alvarez-Aleman et al., 2018). The fossil record for manatees is sparse, and few genetic studies have been conducted on their evolutionary history (Alvarez-Aleman et al., 2018).

Valuable contributions to the research status of manatees and the Amerindian cultures of the Caribbean have been made by initiatives such as the Oceans Past Initiative and the NEXUS1492 project. These projects offer numerous case studies, reports, and theses that provide different perspectives from historical, archaeological, and marine scientific viewpoints. Additionally, previous databases and digital catalogs documenting indigenous ceremonial objects from the region have been compiled (see Knight, 2020; McGinnis, 1997; Moravetz, 1999; Valcárel et al., 2003, in Roca & Iglesias, 2015, p. 81). Other online databases like *sirenianbiblio* and *Sea Citation* offer extensive bibliographic information and translated historical records on sirenians. The IUCN Sirenia Specialist Group's newsletter, "Sirenews", provides further updates and insights into manatee research and conservation efforts.

Stakeholder collaboration is essential for effective conservation, and organizations such as the *Fondation pour la Protection de la Biodiversité Marine* (FoProBiM) – the only Haitian operated, and Haiti-based NGO dedicated to the protection and management of Haiti's coastal and marine ecosystems – play a crucial role in protecting and managing coastal and marine ecosystems in Haiti. Additionally, initiatives such as *Prosjekt Haiti*, a non-profit humanitarian organization, contribute to furthering education within the region. Furthermore, ongoing efforts by projects like 4-Oceans, aimed at assessing the importance of marine life for human societies over millennia, promote a better understanding of ocean management. Employing the appeal of manatees for educational outreach can foster greater public engagement and support for conservation initiatives.

Despite these advancements, knowledge gaps exist in our understanding of the human-manatee relationship and Caribbean indigenous cultures. Limited systematic research on manatees prior to the 18<sup>th</sup> century hinders a complete understanding of their historical importance and ecological role. Additionally, while archaeological studies have shed light on indigenous societies, there is still much to be learned about their interactions with manatees and the significance of these interactions within their cultural frameworks. Existing scholarship has yet to fully explore the wealth of information contained within iconographic data, ideographic expressions, and comparative mythology. These approaches offer opportunities for new insights into the cultural significance of manatees and their roles in Caribbean societies. So, while progress has been made in studying the human-manatee relationship and Caribbean indigenous cultures, there is still a need for further research to address ambiguities, and limitations. By applying interdisciplinary methods and using both historical documentation and archaeological evidence, we can advance our understanding of this complex relationship and its implications for conservation and cultural heritage preservation.

### 1.3 Purpose of the Study

The main purpose of this study is to provide a comprehensive overview on a focused subject within an archaeological region that has been fragmented for a considerable time. By combining existing knowledge and conducting new research, this thesis aims to contribute to the fields of Caribbean archaeology and marine conservation, through an exploration of the importance of manatees in human history. Moreover, this research aligns with the objectives of the 4-Oceans project. By bridging gaps in knowledge and offering fresh insights, the study hopes to provide a contribution to interdisciplinary research and inform future efforts in marine conservation and historical ecology.

My goal is to deepen our understanding of historical interactions involving the Antillean manatee, and the changing role of this species through its interconnectedness with human societies. By analyzing themes related to humans' perceptions and utilizations of manatees over time, I seek to better interpret the alternating relationship between humans and the natural world. Specifically, the study will facilitate discussions that place the manatee within different sociocultural settings and interchange, from indigenous cultures like the Maya and Taíno, to the conquering West, allowing for a comparative

analysis across different historical periods and cultural contexts. After all, this was a time where different worldviews and notions of nature clashed, resulting in alterations to habitats and animal populations.

Given the manatee's history of exploitation and its current endangered status, the research hopes to provide insights into the chronology of human misuse while exploring the social dimensions of human-animal interactions through an archaeological lens. By examining the practical and symbolic significance of the manatee and the impacts of cross-cultural exchanges from a historical ecology perspective, my objective is to further our awareness of the importance of this species and its ecosystem in contemporary conservation and sociocultural discourse.

## 1.4 Research Question

My research question will center around the examination of *how socio-economic and cultural forces drove, limited, and allowed for the exploitation of manatees before and after the colonization of the Caribbean, and assess the subsequent impact on various societies and marine ecosystems*. To better explore the main research question, I will investigate a set of five sub-questions.

### 1.4.1 Sub-Questions

1. How has the cultural and historical significance of manatees varied among different Caribbean communities?
2. What factors have influenced human motivations for manatee hunting, utilization, and trade?
3. What evidence exists for changes in the consumption and utilization of manatees' post-colonization, including potential increases in consumption or notable declines in distribution or abundance?
4. What are the observed changes in prehistoric, historic, and contemporary manatee abundance, and distribution associated with hunting or trade regimes?
5. How can we integrate current traditional and ecological knowledge of the manatee to inform conservation efforts and cultural revitalization within Caribbean communities?



## 1.5 Materials and Scope

I will draw upon a range of materials to investigate the historical and contemporary dynamics of the human-manatee relationship in the wider Caribbean region. These materials include (1) a comprehensive literature database comprising 199 references related to manatees in the Caribbean, sourced from scholarly literature, articles, and books; (2) an extensive collection of archaeological artifacts made of manatee bone or featuring manatee motifs, gathered from archaeological reports, published works, and online museum collections; (3) a database of manatee archaeofaunal remains from sites across Central and South America, as well as the Antilles; (4) historical mentions of manatees sourced from online databases, grey literature, and a variety of primary and secondary sources; (5) a number of records regarding manatee trade from the last few centuries; (6) a compilation of toponyms within the wider Caribbean region named "Manatí"; and (7) data obtained from an international survey I conducted to assess the current understanding and knowledge of manatees, with a significant portion of respondents from Haiti. For a detailed overview of my materials, see appendix I-VII.

### 1.5.1 Focal Study Region

The focal study area for my research is the wider Caribbean region, a sea area bordered by the Antilles chain of islands to the north and east, the Yucatán Peninsula and parts of Central America to the west, and the Colombian region and northern South America to the south. The Caribbean comprises numerous islands, primarily classified into three groups: the Greater Antilles (including Cuba, Hispaniola, Jamaica, and Puerto Rico), the Lesser Antilles (from Grenada in the south to the Virgin Islands in the north), and the Bahamian Archipelago. Additionally, there are other islands such as the Cayman Islands, Trinidad, and Tobago off northern Venezuela; numerous smaller islands along the eastern coasts of Mexico and Central America; and various cays and archipelagos extending from Belize to Panama, such as Moho Cay in Belize, the Bay Islands of Honduras and the Bocas del Toro archipelago (Fitzpatrick, 2015, p. 306) (see figure 2 and 3).

The choice of this area as my study region was decided by its cultural and historical significance, which encompasses influences from both Taíno and Maya cultures. For many, these material cultures represent indigenous culture in the Caribbean. The indigenous groups of the Pre-Columbian Caribbean did not believe in a rigid separation between life and death; instead, their cosmology was characterized by a dualism of existence, influenced by Maya beliefs. Bones and skeletal elements played an important role in this worldview, with marine life believed to originate from a gourd fertilized by bones (Mol, 2011b, p. 23).

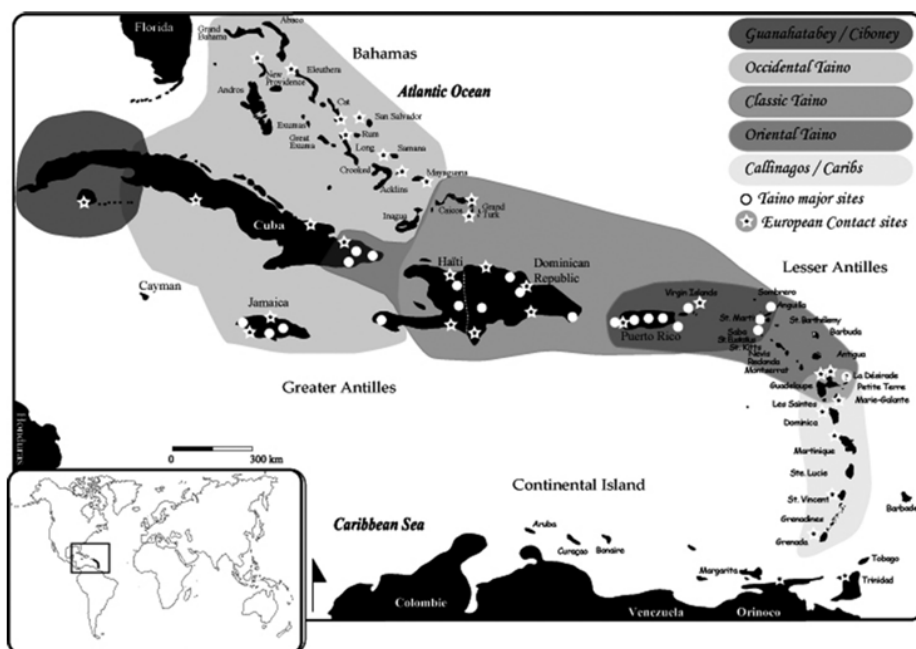


Figure 3. Map of the Caribbean with the major Taino populations. Source: from Atlas Mondial Hatier 1985; Rouse 1992, in Grouard 2010, p. 145.

## 1.5.2 Chronology

### Maya

The Maya Civilization originated during the Preclassic period (1800 BC – AD 250) in the Yucatán Peninsula, spanning modern-day southeastern Mexico, Belize, Guatemala, Honduras, and El Salvador. This era encompasses three distinct time periods: Early, Middle, and Late. Settlements increased during the Middle Preclassic period (900 BC – 300 BC) as communities migrated inland from the coast into river valleys. By 300 BC to AD 250, the lowland Maya population expanded, leading to increased competition for land and resources, along with the

establishment of Maya kingship and complex social structures (Coe & Houston, 2023; SBER/MesoAmerican Research Center, 2010). This Late Preclassic period represented the height of Maya civilization, extending into the subsequent Classic period (AD 250 - 1500). Major centers flourished and continued to grow into the Late Classic period. The sea played a crucial role, serving as a trading route and source of important goods for Maya culture. Coastal settlements thrived due to their proximity to the sea, providing access to valuable resources and ritual materials, like manatee bones (McKillop, 2005, p. 5633; McKillop, 1995, pp. 214-215). Given the abundance of materials from this period, my study will focus on archaeological finds from the Classic period.

The decline of the Classic period brought big changes, including conflict, environmental pressures, and societal upheaval, leading to the collapse of major centers. The subsequent Postclassic period saw the Spanish conquest, resulting in disruptions to Maya society, including diseases, suppression of traditions, and forced labor. Despite these tragedies, Maya culture persists today (Coe & Houston, 2023; SBER/MesoAmerican Research Center, 2010).

*Table 2. Maya chronology, from Wenting, 2015.*

<b>Evolution of Maya culture</b>	
<b>Olmec</b>	1200-400 B.C.
<b>Early Preclassic Maya</b>	1800-900 B.C.
<b>Middle Preclassic Maya</b>	900-300 B.C.
<b>Late Preclassic Maya</b>	300 B.C. - A.D. 250
<b>Early Classic Maya</b>	A.D. 250-600
<b>Late Classic Maya</b>	A.D. 600-900
<b>Post Classic Maya</b>	A.D. 900-1500
<b>Colonial Period</b>	A.D. 1500-1800
<b>Independent Mexico</b>	A.D. 1821 to the present

### *Taíno*

The Caribbean Islands have a history of human settlement extending back over 7000 years, with a notable concentration along coastlines. Recent research indicates that these early inhabitants were heavily reliant on marine resources for sustenance and tool production (Fitzpatrick & Keegan, 2007). Scholars have traced the cultural ancestry of the Taíno to Arawakan-speaking peoples along the Orinoco River in South America (Florida Museum, 2018; Grouard, 2010; Schwantes,

2011). Around 1000 BC, during the early ceramic age, these Arawakan-speaking peoples, termed the “Saladoid”, migrated into the Caribbean, reaching Eastern Hispaniola by approximately 250 BC. Archaeological findings suggest marine resources played an important role in attracting them to the island (Florida Museum, 2018; Grouard, 2010; Schwantes, 2011). Following the migration, the Saladoid experienced a decline in geographic expansion around the same time. By AD 600, they developed the Ostionoid tradition, marking the late ceramic age characterized by larger populations and expanded settlements across ecological settings (Florida Museum, 2018; Fitzpatrick, 2015, pp. 316-317; Grouard, 2010; Vega, 1990).

The Taíno civilization of the Greater Antilles represents the peak of the Ostionoid cultural tradition, making it the focal point for my study due to its rich ritualistic archaeological material. By AD 1100-1200, the Ostionoid peoples of Hispaniola had developed distinct material culture, rituals, and artistic traditions. Social stratification also became more pronounced during this period (Florida Museum, 2018; Grouard, 2010).

The Taíno people, as outlined by archaeologists, comprised distinct subgroups distinguished by their artistic and social expressions (see table 3). Among these, the Central or “Classic” Taíno inhabited large parts of Hispaniola. The “Western” Taíno resided in central Cuba, Jamaica, and the rest of Hispaniola, while the Lucayan Taíno lived in the Bahamas, recognizable by their distinctive Palmetto ware. The “Eastern” Taíno likely occupied territories in the Virgin Islands and the Leeward Islands of the Lesser Antilles (Florida Museum, 2018; Fitzpatrick, 2015, pp. 316-317; Grouard, 2010; Khalsa, 2014; Neeganagwedgin, 2015; Schwantes, 2011).

*Table 3. Taíno chronology*

EVOLUTION OF ANTILLEAN CULTURE

Early Ceramic Age		
	Saladoid	(1000 B.C.-) 400/250 B.C.- A.D. 600
Late Ceramic Age		
Greater Antilles	Ostionoid	A.D. 600 - 1100/1200
	Elenan-Ostionoid	A.D. 600 - 1200
Classic Taíno	Chican-Ostionoid	A.D. 1100/1200 - 1500
Western Taíno	Ostionoid-Meillacan	A.D. 800 - 1500
Lucayan Taíno	Palmettan-Ostionoid	A.D. 800 - 1500
Eastern Taíno		A.D. 1200 - 1500
Lesser Antilles	Troumassoid	A.D. 600 - 1100
	Suazan Troumassoid	A.D. 1100 - 1500
	Cayo	ca. A.D. 1250
Colonial Period		
		A.D. 1492 - 1804
First independent Colony (Haiti)		
		A.D. 1804 to the present

While the Taíno civilization flourished, it is crucial to acknowledge they were not the lone inhabitants of the Caribbean during the pre-Columbian era. They coexisted and interacted with other indigenous groups, including other Ostionan peoples and possibly Saladoid-influenced Archaic populations like the Caribs of the Lesser Antilles (Florida Museum, 2018; Fitzpatrick, 2015, pp. 316-317; Grouard, 2010; Khalsa, 2014; Neeganagwedgin, 2015).

### *Colonial Watershed*

The final relevant wave of migration into the Caribbean, for this study, occurred in the late fifteenth century with Columbus' "discovery" of the New World, marking the onset of the "Columbian exchange". This period saw marine resources used for sustaining populations and included in the expansive trade network across the Atlantic triangle (Mignucci-Giannoni et al., 2000, p. 192).

## 1.6 Definitions of Terms

It was deemed beneficial to provide brief definitions of select terms that are particularly unique, specific, or significant for clarity in the first chapter of the thesis. However, it is important to recognize that these terms hold complexity and nuance beyond the definitions provided here:

**Axis mundi:** A sacred axis that facilitated shamanic navigation between worlds.

**Behique (bohiti):** Priests, healers, and shamans among indigenous Caribbean (Taíno) societies. Revered as the wisest individuals in the tribe, behiques possessed great knowledge of medicinal plants and substances. They served as intermediaries between the tribe and spiritual entities, negotiating with gods and ancestors on behalf of their community.

**Cacicazgo:** A phonetic Spanish transliteration of the Taíno word for the lands ruled by a cacique – a chiefdom.

**Cacique/cacica (cacike):** The tribal chieftain/chieftess of the Taíno people.

**Cemí:** Meaning "Forehead of the Lord". In Taíno civilizations cemí held deep significance, representing both deities, ancestors, and vessels through which spiritual entities interacted with the world. Cemís

took many forms, from sculptures to natural elements, serving communal and familial religious purposes. They were housed in diverse locations and created through ritualistic processes, believed to imbue them with spiritual agency (Medrano-Marra, 2009; Schwantes, 2011).

**Coaybay:** The name of a paradisiacal afterlife on a mythical island called Soraya.

**Cohoba Ritual:** To converse with the spiritual realm through the cemí, behiques undertook several preparations. These included ritual baths, prolonged fasts lasting from days to months, and inducing vomiting using intricately carved spatulas. After purification, they ground hallucinogenic cohoba tree bark into powder and inhaled it through snorting tubes often made from hollow bird bones (Guerra-Doce, 2015; Khalsa, 2014).

**Columbian Exchange:** Signifies the ecological and social outcome from the transfer of flora, fauna, insects, people, and diseases between the Old and New Worlds (Goedeke, 2004). The exchange had a huge impact on native populations in the Americas, who faced slavery, violence, and diseases due to their lack of immunity. Additionally, isolated environments experienced extreme changes through plantation agriculture, extensive land clearance, the introduction of African slaves, and intensified resource exploitation (Mignucci-Giannoni et al., 2000).

**Dataset ID: re;** For simplicity in referencing dataset IDs, I have adopted a shortened format. Each reference begins with the corresponding appendix number in Roman numerals, followed by the dataset ID number, facilitating easier access, and minimizing confusion during in-text references.

**Iegue:** Signifying a tamed animal or an adopted human child in the Carib language.

**Manatee:** The term did not appear in European natural history texts until the 17<sup>th</sup> century. It was first documented in Spanish in 1526 in Oviedo's "*Sumario de la Natural Historia de las Indias*". Initially, it was used alongside the term "lamatim", likely taken from the French word "lamentation", describing the grunts of manatees. Spanish explorers introduced the term "Manatí" in the Greater Antilles in 1516, based on the Native American languages, where it meant "nipple" or "breast" (Vieira & Brito, 2017, p. 518). In Mayan languages it is known as *chiil* or *tek* (Pedro, 1859 in *sirenianbiblio*).

**Maya:** An ethnolinguistic group of indigenous peoples largely located in Mesoamerica. Contemporary Maya are often descendants of the ancient peoples who inhabited the historical region. The term “Mayan” is typically used by scholars to refer to the languages they speak. However, when talking about individuals, places, and cultural elements, the term “Maya” is used, regardless of whether it is in a singular or plural context (Maestri, 2019).

**Opía (hupia, or maboya):** Spirits of the deceased.

**Taíno:** Used in Caribbean archaeology, “Taíno” refers to a material culture observed in the Greater Antilles' archaeological record. Its accuracy in representing historical realities versus colonial constructs is debated. While it historically referred to a shared cultural identity among indigenous groups, recent scholarship questions this assumption. “Taíno” originates from early European accounts, meaning “good” or “noble” in Arawakan languages. Despite the terms' prevalence in academic discourse, ongoing evaluation is needed to grasp its full implications (Curet, 2014; Schwantes, 2011; Vega, 1990).

**Vomitivo/vomiting spatula:** A special object that is part of the cohoba ritual, often carved from (manatee) bone or wood and curved to fit down the throat to help the shaman purge themselves. Vomiting accompanied extensive fasting to help the increase the effect of cohoba.

## 1.7 Thesis Framework

In this first introductory chapter, I have provided an overview of the problem under investigation, outlined the framework and purpose of my study, presented my research question, discussed the research history, described the materials used, and specified the geographical and chronological scope of my study, along with defining key terms. The subsequent chapters will offer a more detailed exploration of the topics introduced here. The structure will be as follows:

### **Chapter 2 – Theoretical Approaches:**

This chapter explore three theoretical frameworks crucial for understanding the relationship between human societies and the natural world in the Caribbean, with a specific focus on the interaction between humans and manatees. The approaches include historical ecology, posthumanism and decolonization.

### **Chapter 3 – Methods and Approach:**

This section outlines my methodology as a three-step process: A comprehensive literature review to establish a foundational understanding of manatees and their historical and present status; the construction of three — zooarchaeological, historical, and artefact-based — case studies originally based on the literature review findings; and the implementation of a survey questionnaire to gather contemporary perceptions.

### **Chapter 4 – Results and Findings:**

In this chapter, the results from the literature review, case studies, and survey are presented. Emphasis is placed on previous research, archaeological artifacts, faunal remains, historical references, trade records, and contemporary perceptions pertaining to manatees.

### **Chapter 5 – Discussion and Analysis:**

This part will engage in the systematical analysis and discussion of themes derived from the literature analysis, the three case studies focusing on Maya and Taíno culture, and Europe, along with insights from the survey. Points of contention are synthesized to provide a comprehensive understanding of the research topic.

### **Chapter 6 – Final Conclusions:**

The concluding chapter sum up the main findings of the thesis concerning the research question and sub-questions. Additionally, it addresses limitations, ethical considerations, and offers recommendations for further research and future exploration.



## Part II: Theoretical Approaches

### 2.1 Introduction

During my investigation, a fundamental part of the research process consisted of getting a good understanding of the varying interactions between human societies and the natural world. In this chapter, I aim to synthesize the insights I gained from three important theoretical approaches that offered information on the relationship between the human, non-human, and the islandic environments of the wider Caribbean region.

I will navigate through historical ecology, posthumanism and decolonization, respectively. Historical ecology provides empirical evidence, posthumanism emphasizes the agency and interconnectedness of the human and non-human, and decolonization challenges traditional Eurocentric perspectives. As I study each of these perspectives and their intertwined natures, I will argue how their fusion can better develop our comprehension of the human-manatee relationship and show how I can incorporate this into my study.

### 2.2 Defining Historical Ecology: A Multidisciplinary Perspective

Historical ecology investigates long-term interactions between societies and their environments, rejecting rigid nature-culture divisions (Balée & Erickson, 2006). It provides a practical framework, utilizing diverse evidence to understand past and future effects on local and global scales, and explores environmental adaptations to sociocultural and political systems (Balée, 2006; Crumley, 2017; Crumley et al., 2017; Szabó, 2015).

In recent decades, there has been increased focus on studying the historical relationship between human societies and the environment. By integrating insights from multiple fields, historical ecology offers a holistic approach to understanding and addressing environmental challenges, emphasizing empirical applications (Balée, 2006, p. 78; Santana-Cordeo et al., 2024, p. 664; Szabó, 2015, p. 997). It forms the foundation for my exploration of the human-manatee relationship.

Scholars in historical ecology usually classify themselves into two categories: ecology (E) and anthropology (A). Individuals from the ecological school of thought stem from natural sciences, use historical data and methods to understand contemporary ecosystems, and

considers humans as one of many factors that has influenced current ecosystems. Conversely, the anthropological school of thought views human society as an inherent and essential part of the natural world – wanting to study human–nature interactions from the perspective of human society (Szabó, 2015, p. 1005). Although this study will mostly adopt an anthropological perspective, aligning with the “A” tradition, it does not reject the ecological school of thought.

Balée (2006) asserts that historical ecology draw attention to cyclical human-environment relations and acknowledges culturally specific impacts on landscapes. He raises concerns about qualitative human-mediated disturbances and their impact on species diversity, challenging research in environmental anthropology and reinterpreting ideas from cultural ecology and ecological systems theory.

Similarly, Fitzpatrick and Keegan (2007) highlight historical ecology as a paradigm shift towards a long-term perspective, akin to the Annales historical school's *longue durée* concept. Historical ecology, as a theory, fundamentally broadens the scope of historical investigation. It extends beyond the confines of written records to include both the history of the Earth’s systems and the tangible past of humanity (Crumley, 2017, p. 65).

Table 4. Historical ecology and related disciplines

Discipline	Relationship with Historical Ecology	References
<b>Cultural Ecology</b>	Historical ecology diverges from cultural ecology by prioritizing human actions in shaping environments, rather than merely adapting to them. It suggests that humans actively transform their surroundings rather than passively adapt to ecological conditions.	Balée, 2006; Crumley, 2017
<b>Anthropological Systems Ecology</b>	Unlike anthropological systems ecology, which often focuses on steady states and functional adaptations within a system, historical ecology incorporates the concept of change over time, recognizing the importance of temporal dynamics and contingency.	Balée, 2006; Crumley, 2017
<b>Political Ecology</b>	Political ecology examines the influence of political and economic factors on environmental issues. In contrast, historical ecology delves into the historical layers of human-environment interactions, although it does share some concerns with political ecology, such as power dynamics and resource control.	Balée, 2006
<b>Landscape Ecology</b>	Landscape ecology is concerned with spatial patterns and ecological processes, such as species distribution and habitat connectivity. Historical ecology, while considering these aspects, also integrates historical evidence to understand long-term human-environment relationships.	Balée, 2006; Crumley, 2017
<b>Environmental History</b>	Environmental history and historical ecology both explore the reciprocal relationships between human societies and the environment. However, historical ecology is distinguished by its theoretical approach to the history and transformation of landscapes, independent of chronological events, and its integration of diverse disciplinary evidence and stakeholder perspectives.	Crumley, 2017, McNeill, 2010
<b>Ecological Restoration</b>	Ecological restoration is a discipline based on ecological history. However, comprehensive monitoring typically only extends over a few decades, requiring restoration ecologists to obtain information from other sources. By providing a clear picture of the state of the ecosystem before disturbance and the causes of damage, it helps experts define precise restoration goals to conserve and protect biotic diversity, guiding landscapes back to their “natural” state. But the concept of the “natural” ecosystem is continuously evolving. Pre-European indigenous cultures impacted ecosystems through activities such as hunting, burning of vegetation and more. In addition, climate change, caused by both natural factors and human activities, also alters environmental conditions, challenging the concept of a stable reference.	Balée, 2006; Jackson & Hobbs, 2009

### 2.2.1 Historical Ecology of the Caribbean Islands

In the exploration of the historical ecology of the Caribbean, islands emerge as vital indicators, bearing witness to human impacts on marine taxa over an extensive period (Fitzpatrick et al., 2008, p. 147) by prehistoric Amerindians, historic European colonists, and modern populations. The synthesis of archaeological, historical, and biological data reveals connections between impact levels, population size, and technological expertise. The advent of European contact becomes a focal moment. Anthropogenic activities, such as overfishing, development, and pollution, set in motion an ecological transformation, reshaping coral reef structures and fisheries (Fitzpatrick et al., 2008, p. 148).

Research has revealed that prehistoric people shaped island ecosystems during the Archaic and Ceramic ages through the exploitation of marine resources (Carlson & Keegan, 2004; Fitzpatrick et al., 2008, pp. 158-160; Fitzpatrick & Keegan, 2007; Wing, 2001; Wing & Wing, 2001). Although their impacts may have been limited compared to European counterparts, the utilization of “keystone” species may have affected local ecological environments. After European contact, the trend of resource exploitation continued, with impacts on fisheries far exceeding any other point in time. Large herbivores, such as the West Indian manatee, are now almost ecologically extinct, and grapple with threats such as accidental deaths, poaching, habitat contamination, strandings, and incidental capture (Fitzpatrick et al., 2008, pp. 157-160).

In this way, the historical ecology of the Caribbean describes a narrative of interplays between human activities and environmental changes, shows ecological shifts over time, and provides valuable insights for informed conservation strategies and sustainable environmental management.

### 2.2.2 The Practicality of Historical Ecology

Historical ecology is not organized around any unified methodology or theory and has a lot of multidisciplinary branches and related disciplines (see table 4). At the center of many historical-ecological research initiatives is the recognition of the potential in combining archaeological, historical, and ecological data (Armstrong et al., 2017). One of the biggest appeals of a historical-ecological research project is that it can create applied research questions and data for conservation topics that are historically grounded, where environmental initiatives

consider the effect of human-environment interactions (Armstrong et al., 2017).

Applied historical ecology has the potential to provide reference conditions from traditional knowledge to restore past landscapes. The practical implications of historical ecology include its application in ecological restoration, conservation of biota, and in how it allows for knowledge from diverse academic disciplines to interact, benefitting human societies and landscapes alike (Balée, 2006, p. 91). Applying historical ecology to my research will allow me to learn how ancient cultures and societies could have interacted with manatees and their environment. A better look into historical perspectives will also help me understand the socio-ecological dynamics of the wider Caribbean region.

Historical ecology's adaptability across spatial and temporal scales makes it invaluable for studies like mine, where human activities intersect with biophysical systems. This adaptableness is particularly suited when studying vulnerable island and coastal ecosystems due to their isolated histories, as it offers insights into long-term dynamics, and guides sustainable management strategies (Fitzpatrick & Keegan, 2007, p. 31). By investigating the impacts of early human inhabitants, cultural practices, and colonialism, historical ecology shed light on the enduring effects of colonization and the Columbian Exchange on Caribbean Island environments (Braje et al., 2017; Crumley, 2017), illustrating how shifts in human practices can have broader consequences (Braje et al., 2017).

Historical ecology also serves to explore how human societies' memories, values, and ideas interact with the material world. In the context of my study, this perspective proves instrumental. By connecting social memories to past interactions with manatees and their habitats, historical ecology helps in the constructing of a more inclusive narrative (Crumley et al., 2017, p. 886). By delving deeper into how environments are affected by changes in sociocultural and political systems, one can analyze the influence this had on manatee exploitation across different time periods.

Restoration ecology counts as an applied form of historical ecology (see table 4). It relies on historical ecological knowledge to comprehend past landscape conditions and achieve authenticity in restoration endeavors. The application of this approach naturally involves challenges. These include determining suitable time scales for

restoration and navigating the political complexities behind every landscape restoration initiative (Balée, 2006).

LeFebvre et al. (2022) argues for the major role historical ecology and archaeology has in understanding sustainability. Contemporary historical ecology has expanded its purview to include zooarchaeology, emphasizing the crucial role of archaeological faunal assemblages in researching the complexities of human-environment interactions (Fitzpatrick & Keegan, 2007; Szabó, 2015). Zooarchaeological studies from island regions are helping us to understand how relative sustainability in the past was linked to various human engagements with and impacts on animal species. These data provide new baselines for understanding the scope of species extinctions before and after the 16<sup>th</sup> century (LeFebvre et al., 2022).

Since historical ecology works for interpreting contemporary impacts on biodiversity, it may help in addressing the challenge of “shifting baselines” (LeFebvre et al., 2022). The concept of a “shifting baseline” could hold some relevance in explaining the evolving perceptions of manatee exploitation, as this term signifies how each generation's view of nature or species abundance is shaped by their experiences, often resulting in a lack of awareness regarding environmental changes (Fitzpatrick & Keegan, 2007, p. 38).

Central to historical ecology is the acknowledgment of the interconnectedness between human societies and their environments, a perspective that resonates with the holistic approach of posthumanism, rejecting rigid distinctions between nature and culture (LeFebvre et al., 2022; Szabo, 2015).

### 2.3 Posthumanism: Agency and Interconnectedness

Posthumanism, an interdisciplinary field challenging the foundational principles of modern Western humanism, redefines the human subject's relationship with the natural world, dismantles Cartesian dualism and questions distinctions between humans, animals, and technology (Bolter, 2016, p. 1). Critiquing the anthropocentrism inherent in humanism, it started as a response to the Enlightenment's emphasis on human autonomy, and soon faced challenges from disciplines like Darwinian biology, Marxist economics, and Freudian psychology (Bolter, 2016, p. 1). Posthumanism aligns with poststructuralism, postmodernism, postcolonial studies, feminist studies, and cultural studies, rejecting essentialism in traditional humanities practices (Bolter, 2016, p. 7).

By challenging traditional notions of the “human”, it seeks to transcend binary divisions like culture and nature, mind and body, and person and environment (Fernández-Götz et al., 2021). Aligned with historical ecology's exploration of interconnected systems over time (Ugwuanyi, 2020), both fields share an interest in understanding, breaking down and unite the dynamic relationship between humans and the natural world (Barrett, 2022; Fernández-Götz et al., 2020). Posthumanism specifically asserts that nonhuman species can hold power during human life, emphasizing the agency of nonhuman entities. It also engages critically with issues of power, representation, and colonialism (Barrett, 2022; Olsen, 1997). In sum, posthumanism asserts that humans are not separate from nature, emphasizes the transformation of human-non-human relationships over time and argues against fixed distinctions between humans and nature (Cipolla et al., 2021).

Archaeology, as the historical science of posthumanism, focuses on the long material interplay between humans and non-humans (Cipolla et al., 2021). Responding to contemporary environmental crises, posthumanism offers a multidimensional perspective beyond humanity, encompassing body modification, transhumanism, and the more-than-human world (Ugwuanyi, 2020). Archaeologists build cross-cultural and interdisciplinary connections within this framework, playing into the theme of transcending boundaries (Cipolla et al., 2021).

### 2.3.2 Comparative Perspectives: Posthumanism in Dialogue with Other Theoretical Frameworks

Posthumanism aligns with classical and contemporary animistic viewpoints that also acknowledge the relationship between humans and non-humans (Ugwuanyi, 2020). In the realm of heritage studies, posthumanism challenges anthropocentric biases and promotes a more inclusive perspective, considering heritage as interwoven with the entire community of beings and the Earth (Ugwuanyi, 2020).

Traditional heritage theories, centered on a human-centric perspective, often fall short in addressing the more complex heritage challenges (Sterling, 2020). Perhaps because posthumanism is rooted in the philosophical works of Nietzsche, Heidegger, Foucault, and Lévi-Strauss, it challenges the traditional humanist paradigm by exposing its inherent hierarchies and injustices (Sterling, 2020). Classical humanism, while emphasizing human capacities, has also perpetuated

domination, racism, and colonialism. Posthumanist critiques aim to rectify this (Sterling, 2020).

Posthumanism and ecocriticism both attempt to challenge traditional human-centered perspectives and find common ground in their exploration of biological change and human relationships with the natural world (Feder, 2014). They shift the focus from viewing animals as objects to recognizing intricate interspecies communities in which humans actively participate, pointing to shared existence implications that go beyond mere intelligence or similarity to humans (Feder, 2014).

Indigenous cultures provide perspectives that contrast Western ontologies, describing the significant role of animals, plants, and spirits in shaping worldviews (Sterling, 2020). This form of Amerindian "perspectivism" uncovers diverse perspectives on the interactions between various beings, challenging the conventional dichotomy between nature and culture (De Castro, 1998, pp. 469-470; Duin, 2011). These theories focus on the distinctions between how humans perceive other beings in contrast to how they perceive humans. In this worldview, animals are regarded as individuals with internal human forms, visible exclusively to specific entities such as shamans (De Castro, 1998, pp. 470-471; Duin, 2011). Amerindian myths defy the Western concept of animality as an evolutionary precursor to humanity (De Castro, 1998, pp. 471-472; Duin, 2011), arguing that the body, rather than the soul, becomes the final marker of distinction (De Castro, 1998, pp. 478-479; Duin, 2011). Ritual practices, such as donning animal masks, serve as illustrations of transformative power (De Castro, 1998, pp. 478-479; Duin, 2011). These bodily transformations also demonstrate a sociological distinction between the living and the dead, further emphasized by the attraction of spirits to animal forms (De Castro, 1998, pp. 482-483; Duin, 2011).

Within the realm of postcolonial theory, environmental humanities, and indigenous epistemologies, the critical posthumanities can serve as a bridge, offering insights about the ways colonialism has shaped interactions between, say, humans and manatees (Cipolla, 2021). By prioritizing indigenous epistemologies and actively challenging Eurocentric perspectives, the critical posthumanities provide a platform for the integration of indigenous voices into narratives. By advocating for a balanced perspective on non-human agency and the forming of alliances between the human and non-human worlds, critical posthumanities can ensure that neither side's interests dominate the narrative (Cipolla, 2021).

In summary, posthumanism can offer an integrative framework for analyzing the human-manatee relationship, considering non-human components and shared subjectivities across species (Ugwuanyi, 2020). It also advocates for critical heritage studies to include non-human entities, recognizing heritage's influence on identities and values. Integrating posthumanism and historical ecology can thus provide a comprehensive perspective that acknowledges shared subjectivities among species, placing the human-manatee relationship within broader interconnected systems (Cipolla et al., 2021; Feder, 2014; Fernández-Götz et al., 2021; Ugwuanyi, 2020).

## 2.4 Decolonization and its Role in Reinterpreting History

Decolonization encompasses the process of dismantling colonial ideologies of Western thought and addresses unbalanced power dynamics. In the case of zooarchaeology, it is not uncommon to study faunal assemblages using a utilitarian mindset. But with how things are turning in the direction of a more social zooarchaeology, more nuanced interpretations of assemblage, including both environmental and cultural factors, are gaining traction (Fitzpatrick, 2019). There exists a Eurocentric human/animal and nature/culture divide, where the Western approach is to mostly look at subsistence and domestication. This does not always fit within an indigenous ontology (Fitzpatrick, 2019). From the Caribbean archaeological record, it becomes clear that different nonhuman species, like the manatee, were regarded in high esteem and with respect. Decolonization, a movement on the rise in academia, particularly within archaeology, challenges the colonial perspectives that have traditionally dominated several academic disciplines (Braje et al., 2017; Fitzpatrick, 2019).

### 2.4.1 Decolonizing Zooarchaeology: Reclaiming Narratives and Redefining Perspectives

In the field of zooarchaeology, decolonization serves as both a pragmatic methodology and an interpretative framework, centered on the prioritization of indigenous communities' interests, while concurrently rejecting Eurocentrism. This approach yields a more comprehensive and inclusive perspective regarding the intricate web of human-animal relationships (Van Litsenburg, 2021). Zooarchaeology is a discipline that, despite its primary focus on non-human species, has



been historically tainted by anthropocentrism, offering a markedly one-sided view of the human-animal relationship (Fitzpatrick, 2019). Notably, the very historical roots of archaeology are intertwined with colonial expansion, which underscores the imperative for coordinated decolonization efforts aimed at rectifying the Eurocentric biases that have historically pervaded interpretations of human-animal interactions (Fitzpatrick, 2019). The decolonization approach within zooarchaeology necessitates a comprehensive reevaluation of historical narratives, with a pronounced emphasis on human-animal interactions. This approach strives to be in alignment with indigenous ontologies and acknowledges the diverse array of perspectives on non-human species (Van Litsenburg, 2021).

#### 2.4.2 Conservation Dilemma and Temporal Baselines

The relationship between development and underdevelopment in regions is constructed by the dynamics of human and nonhuman entities, resource distribution, and global trade (Bunker, 2019, pp. 13-14). Social organization is something that both shapes and is shaped by ecosystems and plays a crucial role in determining access to and the transformation of natural resources. Conventional development theories often neglect to mention the connection between material production and resource extraction (Bunker, 2019, pp. 13-14). Global exchange systems, which dictate trade terms, impact regions differently based on their social structures and political organization. Extractive economies, characterized by primary material exports, frequently create extreme peripheries marked by minimal incorporation of capital and labor in export values (Bunker, 2019, pp. 17-18). In contrast to productive systems, extractive economies face escalating unit costs with expanding extraction scales, risking self-impoverishment. Addressing the disruptive impacts of extraction on social and human environments is essential and requires a reevaluation of natural resources. Acknowledging values in nature alongside labor is paramount for a better understanding of energy transformations (Bunker, 2019, p. 24).

Sustainable development encounters a big challenge when short-term interests has disrupted settlement patterns and ecosystems (Bunker, 2019, p. 36). European demand for, say, animal oils can be exemplified by manatees, and has led to the decline of indigenous populations and ecosystem disruption, showing the repercussions of extraction on intricate and isolated ecological systems (Bunker, 2019,

## Repeating Past Mistakes

*The extinction of the Caribbean monk seal (*Monachus tropicalis*) in 2008 marked a significant ecological shift. Historical records of Caribbean Monk Seal killings reveal early signs of this turn of events, linked to biodiversity losses due to European colonization (Garrard, 2014). Today, coastal tourism development and global warming pose threats to the region, endangering ecosystems like mangroves and seagrass beds, as well as species like the West Indian manatee (Bjerck, 2021; Cipolla, 2021). Academic perspectives such as posthumanism, historical ecology, and indigenous epistemologies like decolonization can offer help in understanding the current situation.*

pp. 40-41). Pushing for global development will require a reduction of imports to the economic and political centers of the world and the adoption of responsible resource utilization practices to enrich ecosystems (Bunker, 2019). To achieve this, a more comprehensive understanding of the intertwined nature of social, economic, and ecological factors is crucial for developing more inclusive and sustainable global development frameworks (see figure 41).

Reflecting on this, it is essential to recognize that island ecosystems today face critical environmental challenges, notably biodiversity loss, which has deep-rooted historical origins that trace back centuries (Jackson & Hobbs, 2009). Around the world, archaeological and other records show that human transformation of island ecosystems have a deep history that often began with initial human arrival. In many cases, burning, landscape clearance, and the introduction of exotic plants and animals drove significant ecological changes during the early stages of human settlement. Human impacts accelerated as populations increased and economies intensified, often resulting in extinctions, soil erosion, and increasingly anthropogenic landscapes (e.g. Haiti). Understanding long-term processes of human-island interactions can help reconstruct the evolution of island ecosystems but creates a dilemma for conservation scientists since we do not know the preferred temporal and spatial baselines for restoration and management. Like all ecological spheres, islands are in a nearly constant state of flux, although anthropogenic climate change is now accelerating the pace of change (Fitzpatrick & Keegan, 2007; Jackson & Hobbs, 2009).

### 2.4.3 Ethical Considerations

During the 1980s and 1990s, a particular ethical transformation unfolded in archaeology, influenced by Western liberal democracy's participatory approach, multiculturalism, and the emphasis on victimhood. This era saw the emergence of indigenous and decolonial archaeologies (González-Ruibal, 2018). Ethical considerations in archaeology must address practical, philosophical, and political issues, as a response to the multicultural challenge posed by indigenous communities. Central ethical concepts include reparation, collaboration, ontology, and descent. Reparation, akin to restorative justice, involves returning human remains and objects to descendant communities, and has recently sparked debates on identity and descent (González-Ruibal, 2018). The question of ontology is closely linked to collaboration, often premised on shared understandings of heritage. However, challenges arise when parties disagree on what constitutes heritage. Contemporary ethical discussions in archaeology extend beyond human-centric perspectives, incorporating non-human animals through post-anthropocentrism (González-Ruibal, 2018). Ethical considerations are vital in heritage studies, especially as we work towards a better understanding of vulnerabilities, injustices, and reciprocal duties in nature-culture interactions. Indigenous perspectives would enrich the analysis of the human-manatee relationship, offering insights into a different kind of societal structure and environmental relationship (Sterling, 2020).

### 2.4.4 Intersections of Decolonization: Historical Ecology, Posthumanism, and Beyond

The integration of decolonization with theoretical frameworks like historical ecology and posthumanism will supplement my analysis of the human-manatee relationship and expand on its analytical scope. This approach involves balancing the agendas of various stakeholders, including researchers and indigenous communities with environmental concerns focused on societal benefits, such as climate resilience, healthier ecosystems, improved fishing conditions, and overall environmental sustainability. It is guided by ethical considerations and the inclusion of indigenous voices and perspectives, ensuring a culturally informed interpretation of the archaeological record (Fitzpatrick, 2019; Van Litsenburg, 2021). These aspects will be touched upon in my study later. By decolonizing narratives, we create a more balanced understanding of past human-animal interactions,

fostering practical collaboration with indigenous or local communities. This collaboration can merge indigenous and archaeological knowledge into a guide for sustainability. It thereby becomes a crucial component of zooarchaeological research as well (Fitzpatrick, 2019; Van Litsenburg, 2021).

## 2.5 Reflections and Conclusions: Navigating Theoretical Landscapes

Manatees can be seen as active agents, whose roles extend beyond their ecological significance. They are not only integral to spiritual and ritualistic practices but has also played, and continue to play in some areas, a role in food systems, commerce, medicine, and the crafting of charms. Their interactions with the environment have far-reaching effects, shaping ecosystem dynamics and influencing factors such as seagrass growth, water clarity and climate. The alignment of interconnected perspectives like historical ecology, posthumanism and decolonization will highlight the interdependence of the many links within ecosystems, furthering our knowledge of manatees as dynamic agents within the socioecological web (Bjerck, 2021; Bryant, 2014). Within my theoretical framework, the synergy between said theoretical approaches have proved to be highly valuable (see figure 4).

Through historical ecology it becomes possible to investigate the long-term dynamics of human-environment interactions. By using evidence from a combination of disciplines that challenge the nature-culture divide, I can better emphasize human agency and contingency in environmental transformation. Posthumanism can help challenge the traditional humanist paradigm and the Cartesian dualism that separates humans from nature. It recognizes the agency and interconnectedness of human and non-human entities, and advocates for a holistic perspective that transcends binary divisions. Decolonization can further challenge the colonial perspectives and Eurocentrism that have dominated academic disciplines and interpretations of human-animal relationships, since it prioritizes indigenous epistemologies and interests, and promotes a more inclusive and ethical perspective that respects the diversity of perspectives and values of nature.

This chapter has discussed the implications of applying these theoretical frameworks to my study of the human-manatee relationship in the Caribbean, especially in the context of conservation and sustainability. It has also addressed the ethical considerations and the

role of indigenous perspectives in shaping the narratives and practices of heritage studies.

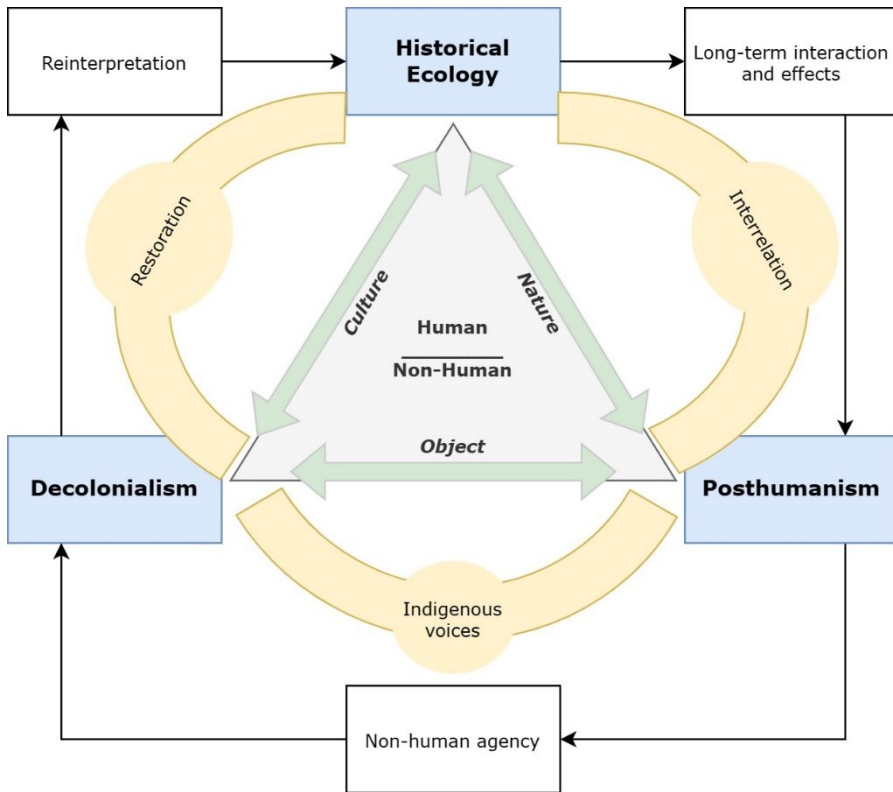


Figure 4. The interconnectedness of historical ecology, posthumanism, and decolonialism, by Léanna F. St-Victor.

The three approaches can mutually reinforce each other to provide a more inclusive understanding of matters related to environmental conservation and restoration, sustainable development, education, and policy making: All fields challenge the belief that humans are the center of the universe, recognize the interconnectedness of humans, nonhumans, and the environment and aim to restore and transform our understanding of the world. Historical ecology emphasizes long-term human-environment interactions by studying change in ecosystems over extended periods and tries to understand the causes and consequences of these changes caused by human actions. Posthumanism challenges the human-centered focus of traditional theories by highlighting the interconnectedness of humans and nonhumans, transforming the concept of what it means to be human by including perspectives of non-human agency. Decolonialism attempts to undo the effects of colonialism by stressing the restoration of indigenous knowledge, cultural values, and educational practices that were displaced or suppressed by colonialism, working towards a reinterpretation of history by including such knowledge. These theoretical approaches empower each other by providing different perspectives on the same issues. For example, historical ecology can provide a long-term perspective on the changes in ecosystems, which can inform posthumanist and decolonial approaches. Posthumanism can challenge the human-centered focus of traditional theories, which can help historical ecology and decolonialism to develop more inclusive theories. Decolonialism can help to reinterpret indigenous knowledge and cultural values, which can enrich the understanding of historical ecology and posthumanism.

These theoretical approaches will provide a structural framework for my thesis and will continue to influence the subsequent chapters: (1) Historical Ecology will be instrumental in examining how human activities have historically influenced manatee populations and habitats in the Caribbean, tracing the evolution of these interactions over time; (2) posthumanism will shed light on recognizing manatees as agents in their ecosystems, prompting a reevaluation of human-manatee dynamics; (3) decolonization will guide the incorporation of indigenous knowledge and perspectives on manatees and their ecological role, addressing historical oversights or marginalization in conservation strategies. Together, these approaches will explore the ramifications of shifting perceptions of the manatee, examining its various ripple effects on cultures and the marine ecosystem.

## Part III: Methods and Approach

### 3.1 Introduction

This chapter connects the theoretical groundwork laid out in the previous chapter with my empirical investigation of the human-manatee relationship in the Greater Caribbean. It describes the approach used to tackle the research questions and works towards reaching the objectives outlined in the first chapter, detailing the steps taken to collect, analyze, and interpret data.

I will outline the methodology used in my zooarchaeological investigation, situated within a framework of historical ecology. This will involve a three-step approach: Conducting a comprehensive literature review to establish foundational knowledge about the manatee and its historical and current status; three zooarchaeological, historical and artefact-based case studies grounded in what I discover in my literature; and a survey questionnaire to capture contemporary perceptions.

### 3.2 Methodological Context and Framework

The principal objective of this thesis is to explore the impact of socio-economic and cultural forces on the utilization of manatees before and after the colonization of the Caribbean, and to investigate its effect on various societies and marine ecosystems. Historical ecology, and its focus on long-term interactions between human societies and their environments, can offer a unique perspective when attempting to better understand the intertwined lives of humans and manatees. However, since this field of study has no unified methodology (Szabo, 2015, p. 997), the application and integration of (1) applied zooarchaeological techniques to analyze data on species distribution and population dynamics; (2) typological analysis to categorize artifacts based on shared characteristics to identify patterns; (3) iconographic analysis to examine the visual representations of formal attributes in artifacts, to uncover their cultural meanings and contexts; (4) historical analysis to explore historical records and narratives for a better contextualization of broader historical processes; (5) geographic information techniques (GIS) to map spatial distributions; and (6) descriptive statistics techniques used to quantitatively summarize and analyze key data characteristics to provide insight into current opinions, all hold particular importance.

By combining these methodologies, I hope to gain a multidimensional understanding of cultural phenomena, bridging temporal, spatial, and symbolic dimensions to enrich interpretation and analysis. This method will help me collect tangible evidence of past human-manatee interactions, offering insights into the historical dimensions of this relationship.

### 3.3 Three-Step Process: Unveiling the Human-Manatee Relationship

#### 3.3.1 Step 1: Literature Review

The literature review serves as the foundation for my investigation and will function as a guide to the rest of my study. Through it, I aim to carry out an extensive review of existing ecological, historical, zooarchaeological, artifact-based and other literature concerning Antillean manatees and their cultural and ecological significance. It will assist in addressing my sub-questions and help identify gaps in previous research.

To gather the necessary information, a systematic approach was implemented. Search engines including Google Scholar, Oria, ProQuest, ResearchGate, and Academia were utilized, employing a variety of keyword combinations, such as "Antillean manatee" + "Taíno", "Trichechus manatus manatus" + "Maya", and "colonization". The search extended to include academic theses and dissertations, journal articles, open-source and peer-reviewed papers, books, reports, and other grey literature. An overall database was created (199 number of references), categorizing each reference by author, year, title, type of publication, topic, a brief description, and language (see appendix I). The review process also involved an examination of potential critical information from the identified sources, including details on manatee faunal records, artifacts made from manatee bone or objects depicting the animal as well as any historical mentions.

#### 3.3.2 Step 2: Case Studies

In the second phase of my research, the focus shift to my case studies and the interpretation of the many roles of manatees within distinct human socioeconomic contexts in the wider Caribbean region. This entails evaluating artifacts; collecting and analyzing count data derived from zooarchaeological materials retrieved from both pre- and post-contact sites; and examining historical references, place names, and



trade records. The data will play a key role in assessing shifts in manatee abundance following the colonization, with specific emphasis on frequency and changing patterns of utilization. By examining different archaeological and historical contexts, we gain insight into the historical exploitation, use, and perception of the Antillean manatee. This stage employed an assimilating approach, integrating ethno-archaeological analysis with the interpretation of material evidence and documentary sources related to manatees' uses and significance.

Three separate cultural entities — namely the Maya, Taíno, and European colonizers — serve as focal points for the case studies. The chronological scope of these case studies will primarily concentrate on the Classic Maya period, the Late Ceramic Age, and extend into the Colonial Period, respectively (ca. AD 600 -). Each case study offer insight into the evolving approaches these groups took in their utilization of manatees.

### *Case Study Focus: The Human Use of Manatees in Maya and Taíno Cultures*

The methodology for this part of my study focuses on exploring manatee-related artifacts and archaeofaunal remains within the contexts of Maya and Taíno cultures. The primary research objectives are to uncover the practical and symbolic uses of these artifacts, analyze the incorporation of different motifs, investigate artifact and archaeofaunal distribution in the Caribbean, and establish some temporal and cultural contexts for these data.

My research objectives will focus on: (1) Exploring the practical and ritual uses of manatee-related artifacts used (a) domestically in Maya culture and (b) under cohoba rituals in Taíno culture; (2) further researching the symbolic use of manatee bone by (a) analyzing the presence of manatee bone figurines in Maya burials, and (b) by investigating the nature of different cemí's in Taíno ritualistic contexts; (3) analyzing the manatee motif; (4) mapping the geographical distribution of manatee artifacts, and archaeofaunal remains in the Caribbean; and (5) determining some chronological and cultural contexts surrounding manatee-related archaeological finds.

My data have been collected through a careful artifact and bone material search and selection process. I established specific criteria for selecting data based on material, culture, and significance, and have utilized archaeological reports, museum online collections, published and grey literature as data sources (see appendix II and III). Historical

and iconographic sources also played a role in supplementing the zooarchaeological and artifact-based data.

### Methodological Approach: Artifacts

The methodology for the archaeological artifacts had several phases: (a) Identifying the artifacts, placing them in time and space through the use of GIS maps to visualize the distribution of manatee related finds in the Caribbean; (b) examining relationships between images and composition; (c) discovering the meaning behind the images; and (d) interpreting the images within a wider cultural system through an analysis of Maya and Taíno artifacts.

The objective was to conduct a systematic analysis of artifacts recovered from Classic Maya and Taíno archaeological sites in the wider Caribbean region. This involved two main components: (1) a formal classification and typology, and (2) an iconographic analysis. The initial step entailed describing and documenting different attributes of each artifact. These attributes may inform a formal classification, which then identifies types of images for the subsequent iconographic analysis. The Maya case study investigates the material, function, and style of various artifacts. Conversely, the Taíno case study is also focused on material, function, and style but will give more weight to iconographic analysis. For this iconographic analysis, different image types were associated with a specific animal or cemí by comparing formal attributes and anatomical features observed on them in the natural and cosmological world. This classification was based on formal attributes, or motifs, like facial features and bodily shapes. Most attributes are qualitative, recorded based on their presence or absence. Insights into identity are derived from Maya and Taíno history and myths, which offer clues about potential secondary meanings assigned to these images.

A systematic typological classification of artifact attributes served to better organize the database, revealing shared characteristics among artifacts and shedding light on their relative significance. From the amassed data, attributes and their variations were tabulated (see appendix III and VII). Comprehensive definitions of attributes and their variations, along with additional general information, are provided in the next chapter and appendix VII. Utilizing the filter function in Microsoft Excel, artifacts were classified based on specific attribute combinations. Notably, this classification approach considers visual resemblance as a key factor, leading to the grouping of certain specimens based on visual similarity.

## Manatee Bone Identification

Misidentification of artifacts is particularly evident in major collections of Caribbean objects, where many items presumed to be crafted from manatee bone are found. Manatee bones exhibit distinctive characteristics due to *pachyostosis*, a thickening of bone tissue without medullary cavities. Authenticating these artifacts usually relies on identifying specific bone traits. Microscopically assessing the presence of organic material within Haversian canals, a series of microscopic tubes in the outermost region of bone called cortical bone, aids in identification (Ricketts, 2008).

Visual comparisons, especially with vomitivos, which resemble unprocessed manatee ribs in width and length (see figure 5), provide additional clues. This is supported by personal observations during my own examination of manatee specimens at the University of Bergen.

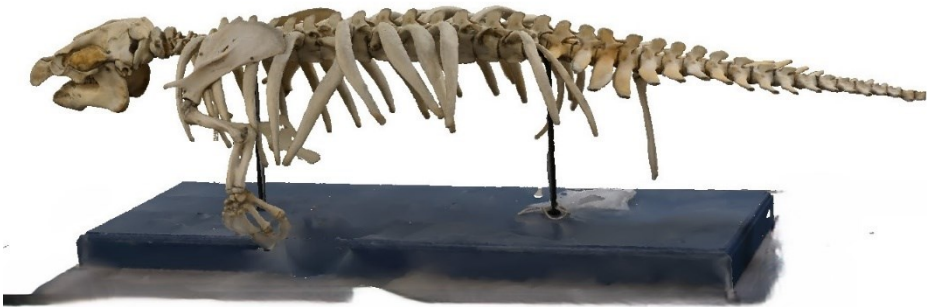


Figure 5. Photogrammetry of a manatee specimen (II80) from the University of Bergen (BM 329). Photogrammetry: Léanna F. St-Victor & Krister M. Sørsæther

## Methodological Approach: Archaeofaunal Remains

In analyzing the zooarchaeological data, I utilized quantitative methods, including NISP (Number of Identified Specimens) and MNI (Minimum Number of Individuals) counts, as outlined by Gifford-Gonzalez (2018, pp. 186-190). This allows me to assess the abundance of manatee remains across various contact sites. By comparing archaeological findings using these quantitative measures, I aimed to discern patterns, trends, or anomalies in manatee exploitation over time and compared, when possible, the faunal data of manatees with that of other taxa found in situ. This comparative approach provided insights about the relative importance of manatees in the subsistence

practices of past human populations and their broader ecological context.

### *Case Study Focus: European Colonization and the Transformation of Manatees*

This case study outlines the transformation of manatees from mythological creatures to commercial commodities during the era of European colonization. The research objectives center on tracing this transformation through historical citations, archives detailing the trade of manatees, and mythological stories collected by sailors and missionaries during their voyages.

My research objectives are: (1) To investigate historical documentation, records and archival documents, to identify instances of manatee-related trade during the European colonization of the New World; (2) to examine the motivations involved in the trade; (3) to collect and analyze mythological stories and accounts from travelers who encountered manatees during their voyages, and identify the cultural perceptions and beliefs surrounding manatees as mythological creatures; (4) and to trace the evolution of perceptions of manatees from mythological entities, such as mermaids, to commercial commodities by examining how cultural narratives influenced the commercialization of manatees.

My data has been collected mostly through published literature and historical documentation databases, where I have utilized historical citations of sightings, other mentions, and trade records as sources (see appendix IV and V).

### *Methodological Approach: Historical Data*

The methodological approach have relied on: (1) qualitative historical analysis to systematically review historical documents to (a) establish a timeline of manatee trade during European colonization, and (b) identify patterns and motivations of the trade; (2) a mythological analysis to understand cultural perceptions of manatees as mythological creatures, and examine the influence of these myths on the European views of manatees and the transformation of narratives from mythological figures to commercial commodities.

### *Purpose of the Case Studies*

These case studies draw upon a diverse array of sources, including data synthesized from the literature review, material evidence from

archaeological contexts and museum collections, documentary sources, and artistic depictions (see appendix I – V and VII). The investigation specifically targets my research sub-questions (1-4): Investigating changes in manatee consumption, abundance and distribution under different hunting or trade regimes throughout history; exploring variations in the cultural and historical significance of manatees among Caribbean communities, and the factors influencing human motivations for hunting, utilization, and trade of manatees.

The combination of the literature review and the case studies serve multiple purposes: (1) It enhances findings from existing studies; (2) aids in the interpretation of faunal and artifact collections from archaeological sites; (3) and contributes to the exploration of the economic, culinary, medicinal, ritualistic, and symbolic roles of manatees in the past.

### 3.3.3 Step 3: Survey Questionnaire

In conjunction with my archaeological investigation, a survey questionnaire was incorporated into my research methodology. This falls within the framework of my fourth and fifth sub-question: On the investigation of the observed changes in contemporary manatee abundance, diversity, and distribution; and how we can integrate current traditional and ecological knowledge of the manatee to inform conservation efforts and cultural revitalization within Caribbean communities.

The main objective of the survey was to capture the current reality of the human-manatee relationship in the Caribbean by incorporating cultural perceptions, conservation attitudes, and traditional ecological knowledge. By integrating these data with my archaeological findings, I hope to further our understanding of the evolving role of manatees within the Caribbean.

The survey was distributed among a diverse range of participants – through the help of members of *FoProBiM* and *Prosjekt Haiti* – comprising both experts in the field and individuals from the general public, primarily from Haiti, but also including respondents from the Dominican Republic, Cuba, USA, Senegal, and Norway. The recruitment process aimed to involve individuals from varied backgrounds, resulting in a total of 83 participants. The survey was conducted through the Norwegian digital survey builder, "Nettskjema," a platform developed and operated by the University Information Technology Center (USIT) at the University of Oslo. It was designed to

be short and anonymous, to encourage honest responses. Ethical considerations were part of the survey administration, ensuring participant privacy and informed consent.

The survey was structured with a focus on contemporary perceptions related to the manatee. Questions were designed to explore a wide range of topics, from cultural beliefs, historical knowledge, and practices to conservation topics. For detailed survey structure and report, see appendix VI.

### *Methodological Approach: Survey*

The method for administering the survey included online links, QR-codes and paper-based versions sometimes used in quasi-interviews, to maximize accessibility and participation.

The survey data underwent analysis by employing analytical methods to reveal insights into contemporary perceptions and knowledge of manatees. Bivariate descriptive statistics were used in my survey to illustrate, describe, and summarize the data, with the aim of identifying possible relationships between the different variables. Additionally, individual responses were examined in relation to historical records and narratives about manatees. These data will be used in a comparative analysis with a previous survey from 2016 done in Hispaniola (Domínguez Tejo, 2016).

By employing these analytical approaches, the goal was to identify patterns and trends in how manatees are perceived and managed in present-day Haiti. The integration of survey data with other research findings enriched my understanding of manatee-human interactions and informed subsequent discussions and conclusions in the study.

### *Purpose of the Survey*

Initially, my motivation for conducting the survey stemmed from a desire to contribute original data to the thesis, and the recognition of a research gap in the field, particularly regarding surveys conducted in Haiti. Additionally, I sought to align my efforts with the objectives of the 4-Oceans agenda.

However, as the survey progressed, I realized its potential to shed light on the evolution of perceptions of manatees in the Caribbean. To trace the changes in societal views, I sought parallels, similarities, and differences by comparing contemporary attitudes with historical perspectives. Moreover, I imagined the survey could encourage an even

more holistic understanding of the contemporary significance of manatees within the Caribbean. By incorporating different perspectives and insights, the study could provide an additional portrayal of the relationship between humans and manatees, and perhaps assist in conservation efforts.

Ultimately, the data gleaned from the survey hold the potential to contribute to future research endeavors and conservation initiatives, offering some guidance for addressing challenges faced by manatees and their habitats.

### 3.4 Data Collection, Analysis, and Interpretation

The methodology applied in this study required a thorough approach to data collection, analysis, and interpretation. Initially, the collected data from each step, including archaeological artifacts, faunal remains, documentary and historical sources, geographical information, and survey results, was organized and categorized. This process ensured that the data were readily accessible and beneficial to subsequent analysis (see appendix I – VII).

The datasets then underwent a meticulous sorting and analytical process. Both qualitative and quantitative methods were utilized to provide insight regarding the cultural perceptions and practices surrounding manatees in the Caribbean. Additionally, the usage of artificial intelligence software systems played a role in improving the efficiency in editing processes – helping paraphrasing and refining parts of my writing and aiding in the analysis of data information.

The culmination of my analytical methods helps identify patterns, trends, and connections within the data. In alignment with the research question, the analysis will examine how socio-economic and cultural forces drove, limited, and allowed for the exploitation of manatees before and after the colonization of the Caribbean, and assess its impact on various societies and marine ecosystems.

### 3.5 Methodology Recap: Key Takeaways and Conclusions

To summarize, my methodology follows three main steps: Conducting an extensive literature review to establish a foundational understanding of the manatee and its historical and present status; accompanied by three zooarchaeological, historical and artefact-based case studies; and

the implementation of a survey questionnaire to gather contemporary perceptions.

This approach serves several key objectives outlined in this chapter, which will inform the subsequent chapters of my thesis. Firstly, it aims to synthesize existing knowledge on the human-manatee relationship by examining historical records, archaeological evidence, and ecological studies. Secondly, the methodology seeks to uncover tangible evidence of past human-manatee interactions through the analysis of archaeological artifacts and faunal assemblages. Additionally, it involves capturing contemporary perspectives on the human-manatee relationship through a survey questionnaire. In this way, the methodology integrates archaeological, historical and survey data to offer a comprehensive understanding of the human-manatee relationship in the wider Caribbean region.



# Part IV: Results and Findings

## 4.1 Introduction

This chapter presents the findings from my literature review and covers the outcome of the case studies derived from databases concerning archaeological artifacts and faunal remains linked to the manatee, within the cultural frameworks of Maya and Taíno civilizations. It examines place names, historical references, and trade dynamics associated with this aquatic species during the colonial watershed, and it reveals insights gathered from my survey which was aimed at gauging the contemporary understanding and knowledge of individuals, mainly from Haiti, on the manatee.

## 4.2 Literature Review Results

The systematic search conducted in online databases yielded a total of 199 documents spanning from the year 1663 to 2023, all of which were subjected to thorough analysis and synthesis. For a comprehensive listing and overview of the literature database, please refer to appendix I. Predominantly, the retrieved publications comprised peer-reviewed literature, including articles, reviews, and research notes published in academic journals, followed by books and theses at various academic levels (MSc, BSc, and PhD) (see figure 6).

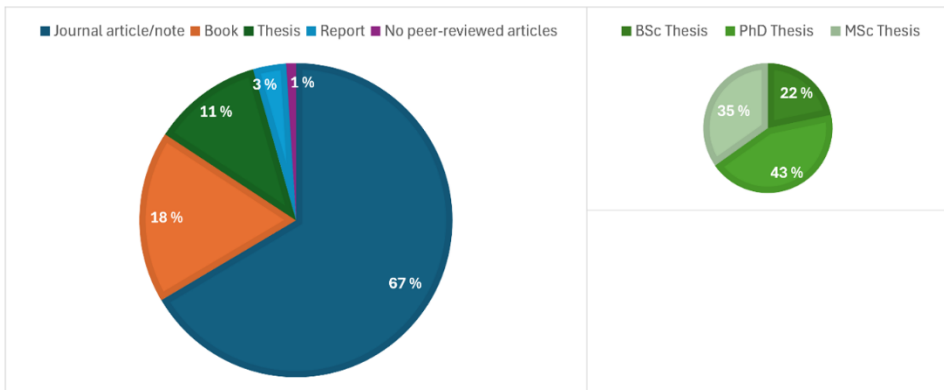


Figure 6. Retrieved publications, percentage.

The corpus of published research on Antillean manatees covered a diverse array of topics, as illustrated in figure 7. Of particular interest are studies in the fields of (zoo)archaeology (25%), ecology (12%) and conservation (34%), which feature a substantial number of preliminary assessments focusing on manatee occurrence, distribution, and conservation status within specific regions or countries, alongside

archaeological studies documenting manatee-related finds in the Caribbean. Another noteworthy category comprises historical (9%) and mythological (3%) texts explaining the historical utilization and indigenous knowledge of manatees in the Caribbean context.

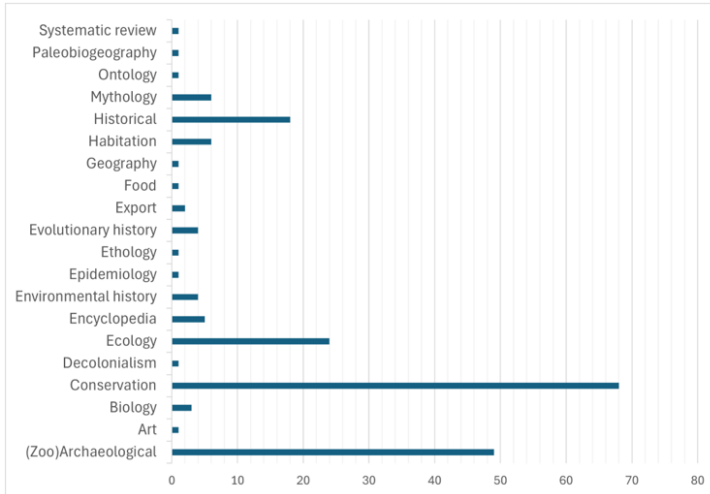


Figure 7. Topics in literature

Notably, the literature on Antillean manatees has witnessed considerable expansion over the past three decades, as depicted in figure 8. Furthermore, a discernible positive correlation exists between the number of publications and the corresponding decade of publication (see figure 9). This said, although historical mentions and quotes about manatees show up frequently in the literature, references to archaeofaunal data and artifacts show up in only fifteen and ten sources, respectively (see figure 10).

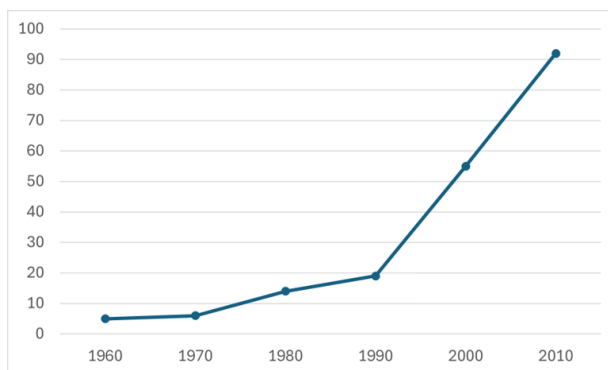


Figure 8. Literature published over the decades.

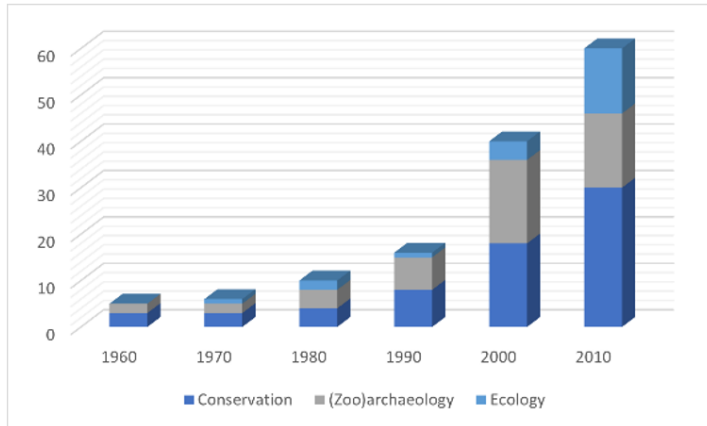


Figure 9. Number of publications and the decade of publication.

It is also worth highlighting that a considerable portion of research remains confined to publications in Spanish or French, thereby impeding the wider dissemination of findings. In my database, most sources are in English, with only a couple of French and a handful of Spanish contributions (see appendix I). Like my survey, which I published in four different languages, English and French sources were not too difficult to sift through and understand. However, pieces in Creole and Spanish had to be translated with some help of friends and family.

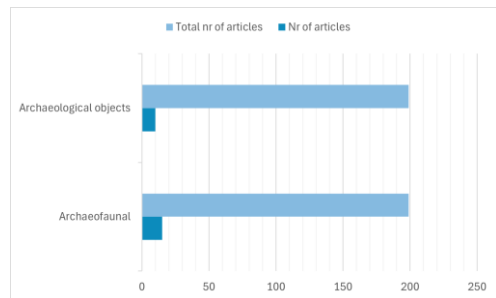


Figure 10. Number of articles containing archaeological data.

### 4.3 Case Study Results

In the archaeofaunal data results, faunal remains of the Antillean manatee were documented across the Greater and Lesser Antilles, along with bone counts recorded in Maya contexts along the Yucatan Peninsula and Central American coast. While efforts were made to maintain a framework of material dating from AD 1 onwards, a few earlier datasets were included. A total of 104 datasets of manatee bone counts were collected, although the majority lacked precise dating and were therefore somewhat vague. Notably, 19 datasets provided extremely limited information, consisting only of location and the presence of manatee bone. Only four datasets offered particularly

detailed measurements, while five allowed for comparisons with other taxa (see figure 11). For a complete overview of the data, see appendix II.

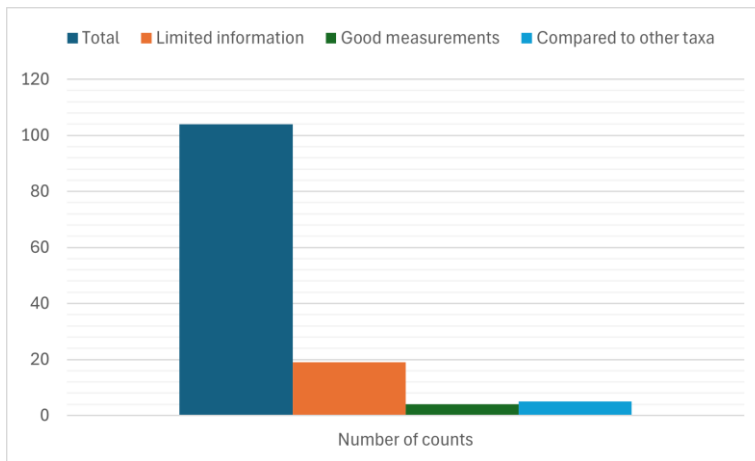


Figure 11. Total number of bone counts.

Archaeological artifacts related to manatees include both items crafted from manatee bone and those featuring a manatee motif. A total of 157 datasets were collected for examination. Among these datasets, 98 were attributed to either Classical Maya (17 datasets) or Taíno (81 datasets) cultures (see appendix III and VII: table 6). Datasets from other cultural traditions, such as Saladoid, Selin, Coclé, Paya, and Mosquito, were also collected, but will only be briefly mentioned and referenced here (see figure 12), as the primary focus is on the Classical Maya and Taíno cultures. Furthermore, only 42 out of the 81 datasets belonging to the Taíno culture will be included in my iconographic analysis, as many of the artifacts are either too fragmented or lack recorded details (see table 5). I also cataloged 76 datasets identifying toponyms called “Manatí” across the Caribbean, shedding light on the geographical distribution of these sites (see figure 13 and appendix VII: figure 45).

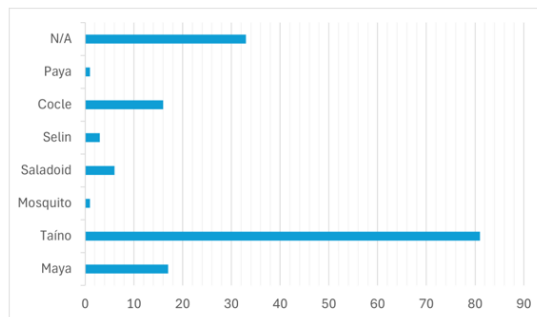


Figure 12. Cultural traditions and number of datasets.

Finally, in my research on the Columbian Exchange and the years that followed, I systematically

gathered and analyzed an assortment of citations relating to the historical presence and cultural significance of manatees in the Antilles and along Central America. This dataset comprised 51 entries documenting historical mentions, reports, and sightings of manatees in the region (see appendix IV). Additionally, I compiled a dataset consisting of 174 entries detailing trade activities related to manatee-derived products (see appendix V).

This extensive collection of information collectively provides valuable insights into the historical interactions between human societies and manatees, showing the many ways in which these animals have been perceived, utilized, and traded throughout the region's history. For a detailed description of all datasets, see appendix I-VII.

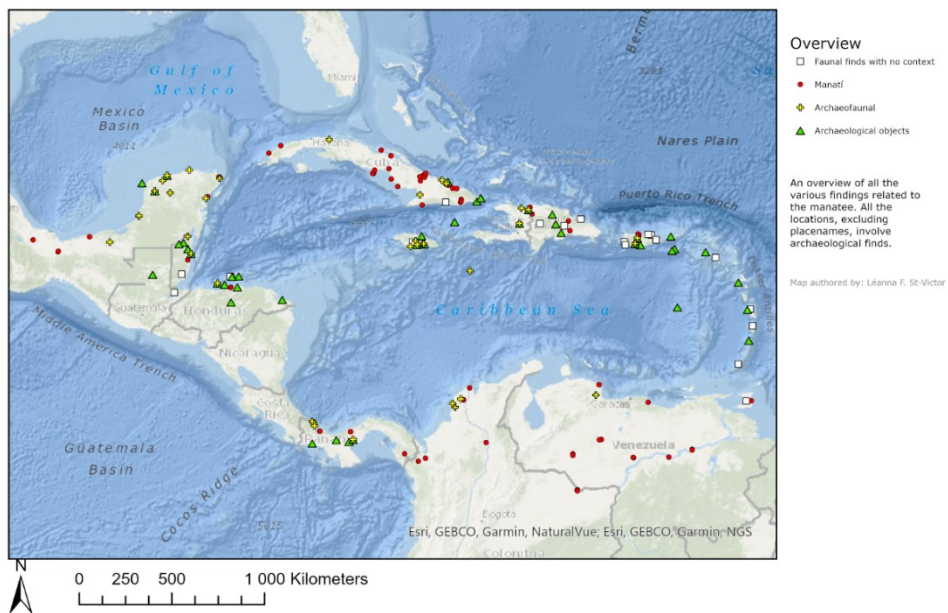


Figure 13. Map over all georeferenced data.

#### 4.3.1 Maya: Faunal Remains and Artifacts

In Maya contexts along the Yucatan Peninsula and Central American coast, a total of 33 datasets comprising faunal remains were examined, demonstrating a limited to reliable quality of information (see figure 14). In my study, the data quality reflects the varying degrees of completeness and contextual information available for analysis. Limited, or imprecise to intermediate data quality, refers to finds that lack details such as measurements, dates, current locations, georeferencing, and contextual information. Conversely, reliable data

encompasses information that includes most data points and relevant contextual details necessary for interpretation.

My datasets primarily originate from the Bay Islands, Mexico, Venezuela, Panama, Colombia, and Belize. Notably, five datasets (see II37, II38, II41, II44, and II45) provided sufficient detail to facilitate comparisons between manatee bone finds and other taxa.

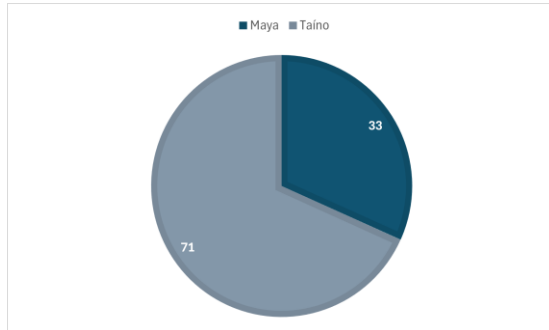


Figure 14. Number of bone counts per culture context.

Additionally, two datasets

(see II3 and II41) stood out for their good measurements of bone data. Fourteen datasets showed multiple counts of NISP, with the highest count observed in II34 (71 specimens). Furthermore, only six datasets revealed multiple MNI of manatee, with the highest count observed in II48 (9 individuals). For detailed information regarding the NISP and MNI across different sites, please refer to appendix II.

Among the 17 datasets containing artifacts attributed to the Classic Maya period, the majority are crafted from manatee bone. The only exception is III94, which consists of a ceramic bowl adorned with vertical strap handles featuring small, conventionalized manatee motif lugs at the bend, from Dos Quebradas. A variety of artifacts seemingly designed for practical usage were identified, including five accounts of canoe models from the archaeological sites of Altun Ha and Moho Cay (see III61-65), four musical rasps from the archaeological sites of Colha, Isla Uaymil, Seibal, and Moho Cay (see III72-75), and spindle whorls from Xcambo (see III76).

Additionally, six figurines crafted from manatee bone were included, each with its own unique context and significance. Two of these figurines were discovered in definitive offering and burial contexts in the archaeological sites of Altun Ha and Oxkintoc (see III93 and III71). Three figurines were found in a midden on the island of Moho Cay (see III68, III69, III70). One figurine was received as a gift to the Yale University Art Gallery (see III155), which is why specific details regarding its origin remain elusive. For detailed information regarding the artifacts, please refer to appendix III and VII.

### Typology and Attributes: Figurines of Manatee Bone

The six figurines crafted from manatee bone all showcase technical skill in bone carving and the sculpting of the human form. Most of the sculptures features round buttocks and thick thighs, contrasting with the more delicate carvings above the waist. All of them are positioned with hands resting upon the chest along the vertical axis of symmetry, and most of their faces exhibit relaxed mouths and delicate features reminiscent of ancient Olmec figurines and masks from earlier centuries. Notably, the dimensions and proportions of the figurines are remarkably consistent. Two of the figurines (see III71 and III93) are also adorned with head adornments or striated hair masses.

It is interesting to note that there appear to be two distinct stylistic attributes even amongst these figurines. Those found in definitive funerary or ritualistic contexts display a more anatomically correct and delicate style compared to those discovered at Moho Cay in a midden-context.

All these observations suggest a potential variation in the purpose or cultural significance of these artifacts, warranting further investigation (see appendix VII: table 7 for details).

#### 4.3.2 Taíno: Faunal Remains and Artifacts

In Taíno contexts across the Greater and Lesser Antilles, a total of 71 datasets comprising archaeofaunal remains were collected (see figure 14), primarily from Cuba, Haiti, Jamaica, and Puerto Rico. These datasets demonstrated limited to reliable quality of information. Notably, almost all the bone counts represented singular MNI counts, and only three datasets (see II4, II9 and II79) exhibited more than four counts of NISP. Additionally, only II17 and II19 emerged with particularly good and detailed measurements. For detailed information regarding the NISP and MNI across different sites, please refer to appendix II.

My results for artifacts attributed to the Taíno culture, has a total of 81 datasets that were initially identified (see appendix VII: table 6 for categorization of different types of artifacts). To ensure a focused examination, I narrowed down the dataset to 63 by selecting only those artifacts directly linked to the cohoba ritual or featuring identifiable iconographic motifs. This exclusion criteria will allow for a more comprehensive analysis later, while omitting highly fragmented pieces and more utilitarian tools like picks, hammers, and awls, which were deemed unsuitable for this study.

## Typology and iconography

From the total of 63 datasets examined, a diverse assortment of artifacts attributed to the Taíno culture emerged. This included three cohoba inhalers (see III6, III13, III14), two cohoba spoons (see III4, III123), 46 pieces identified as vomitivos, four figurines (see III39, III41, III130, III156), two pendants (see III8, III138), and two ocarinas (see III121, III122), as well as one effigy (see III38), one duho (see III37), one jar (see III118), and one earring (see III9) (see appendix III).



Figure 15. Figurine (III39) with clear female anatomy. A portable cemí, perhaps linked to fertility. Most likely made from the shoulder girdle, pelvis, or skull of a manatee. Source: Iglesias et al., 2017, from Baní Museum (nr. 5-14).

I refined the selection of vomitivos by excluding highly fragmented items and those lacking identifiable motifs, resulting in a subset of 25 datasets for further examination. Notably, all artifacts exhibited either anthropomorphic (28) or zoo(anthropo)morphic (14) motifs, as detailed in the accompanying table 5. The figurines displayed consistent anthropomorphic designs (see figure 15), suggesting a potential connection to cemíism and ancestor worship within Taíno culture. Furthermore, the ceramic ocarinas and jar all depicted manatee motifs. While primarily crafted from wood, the duho featured manatee bone teeth inlays within its anthropomorphic motif. Noteworthy among the artifacts was an effigy showcasing anthropomorphic motifs associated with cemíism, and an earring distinguished by its portrayal of a complete anthropomorphic body figure. Lastly, both pendants showcase intricate anthropomorphic and zoomorphic motifs.

Table 5. Motifs in Taíno assemblage.

Artifact	Nr. of artifacts	Anthropomorphic	Zoomorphic	Zooanthropomorphic
Cohoba inhaler	3	1	2	
Cohoba spoon	2	1	1	
Duho	1	1		
Effigy	1	1		
Figurine	4	4		
Earring	1	1		
Vomitivo	25	18	5	2
Jar	1		1	
Ocarina	2		2	
Pendant	2	1	1	
<b>SUM</b>	<b>42</b>	<b>28</b>	<b>12</b>	<b>2</b>



### 4.3.3 Europe: Historical Mentions and Trade

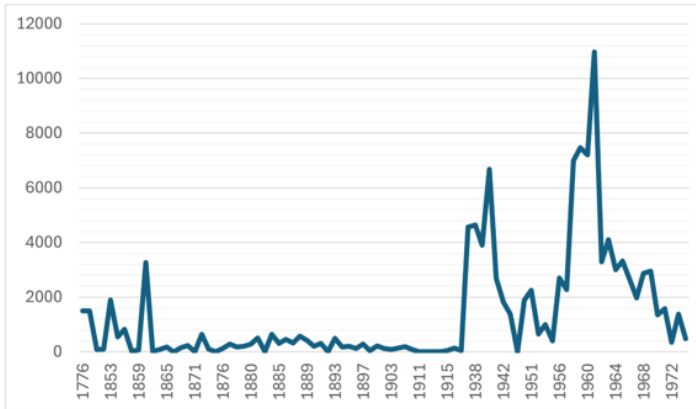
My investigation into historical mentions, reports, and sightings of the Antillean manatee resulted in a dataset of 51 entries, primarily sourced from *the Sea Citation* database, the online bibliography *sirenianbiblio*, and literature searches conducted during the composition of my literature review (see appendix I and IV). While most references are derived from secondary sources, some entries obtained from the databases came from primary sources. These datasets encompass a wide range of content, including personal accounts of manatee sightings, reflections on the nature of the animal, discussions on its meat and uses, as well as anecdotes and historical trivia. Spanning from the late 15<sup>th</sup> century with the arrival of Columbus to the early 20<sup>th</sup> century, these entries provide valuable insights about the historical perception and significance of the Antillean manatee. For detailed information, please refer to appendix IV.

My research into trade activities involving manatee-related products yielded a dataset containing 174 entries, covering the 17<sup>th</sup> century to the 1990s. Much of the credit for the acquisition of this information is owed to the work of Daryl P. Domning and his seminal piece from 1982, "*Commercial Exploitation of Manatees Trichechus in Brazil c. 1785–1973*".

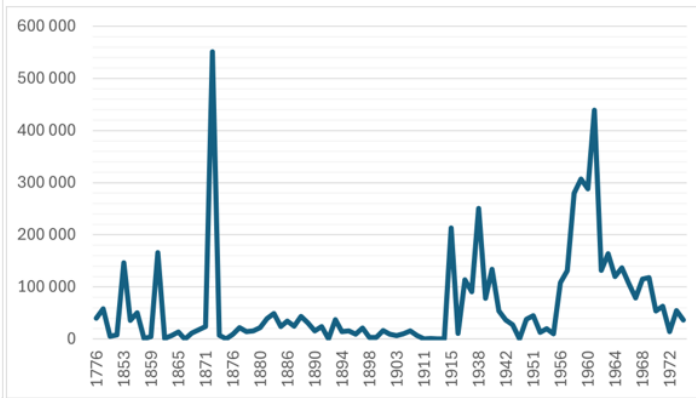
Most of these trade transactions originated from Brazil and the Amazon region, where the Portuguese established Royal fisheries. The exact species of manatee involved in the trade – whether Antillean or Amazonian – remains uncertain due to historical ambiguities. The predominant products traded included dried and salted meat, hides, lard, oil, and a produce known as mixira, consisting of fried meat preserved in its own fat. Furthermore, historical reports, papers, and literature referenced various other specialized products and tools derived from manatees, as detailed in appendix V and later chapters.

The figures 16 (a and b) are intriguing due to their similarities, except for an anomaly observed in figure 16b in 1871, seen in the sudden spike detected in the quantity of manatee products measured in kilograms. Notably, the manatee trade peaked during the mid-20<sup>th</sup> century before declining, coinciding with the species being declared endangered and hunting restrictions being imposed.

Figure 16. Manatee trade



a. Number of manatees traded.



b. Number of manatee products (kg) traded.

#### 4.4 Survey Results

The survey received a total of 83 responses, with 25.6% from women and 74.4% from men. Most participants were over 50 years old (36.1%) or between 35-44 years old (27.7%). A significant proportion of respondents (86.7%) hailed from Haiti, predominantly from the northeast and southwest regions of the island (see figure 17), while other responses originated from Cuba, the Dominican Republic, the U.S., Senegal, and Norway. Among the participants, 53.7% were employed within the fishing industry. Notably, all participants expressed a willingness to continue answering more specific questions.

In terms of familiarity with manatee-related matters, 48.8% reported hearing about them more than four times, while only 12.2% claimed to have never heard of such matters. Similarly, 34.2% stated they had seen a manatee in the wild more than four times, while 27.6% had never encountered one. A significant portion (61.1%) of

respondents regarded the manatee as an endangered species, with over 50% emphasizing its critical importance for the environment. Moreover, a substantial number demonstrated knowledge of the manatee's role in maintaining marine ecosystems.

Only five participants reported having connections with individuals from Indigenous groups in their geographical area, and nearly half had never been told any mythological stories about manatees. Interestingly, some participants mentioned hearing stories of mermaids and sirens (15.2%), or other mythical/religious legends. Furthermore, a noteworthy observation was that some individuals believed manatee meat to *"taste like a mixture of pork and beef"*; that *"its breath could blow over and overturn boats"*; and that *"one should never ride on the back of a manatee"*.

When asked about traditional perceptions of manatees within their cultural heritage, the prevalent view was that manatees were considered exotic commodities with substantial economic value (36.3%); that manatees were considered sacred, bringers of good luck, and were not hunted at all (27.5%), or had a taboo placed on them, so they were only hunted occasionally (20%); or that they were considered a prime target due to their non-aggressive nature, size, high fat content, and delicious meat (25%). Other opinions on how the manatee was treated in the past ranged from: being treated *"like a gift, something intangible that gave good feelings"*; that they were traditionally only hunted by people from specific hunting families, with knowledge and rituals of how to hunt them passed from father to son; and one mention specifying that *"when I was growing up (on the Mississippi Gulf Coast), manatees were essentially unknown. Only in later decades have they become relatively common summer visitors, but most people there have not seen them locally and know little or nothing about them"*.

Regarding past encounters with manatees, many respondents indicated that members of their grandparents' generation either never saw manatees in the wild during their youth (35.8%) or reported seeing them more than four times (19.8%).

Lastly, when queried about the scarcity of manatee bones in archaeological excavations, most respondents attributed it to the inherent rarity of manatees (38%), the difficulty in capturing them (31.6%), or that they were processed at the shoreline, and only the necessary parts were brought back (16.5%). Other comments mentioned opinions like: *"Haiti does not and never had systems*

(institutions) to take care of such issues. It is not and was not a priority"; that "there are much more meat than bones"; and that there are no bones left because of age.

These findings are detailed with figures in a comprehensive overview of survey replies available in appendix VI.

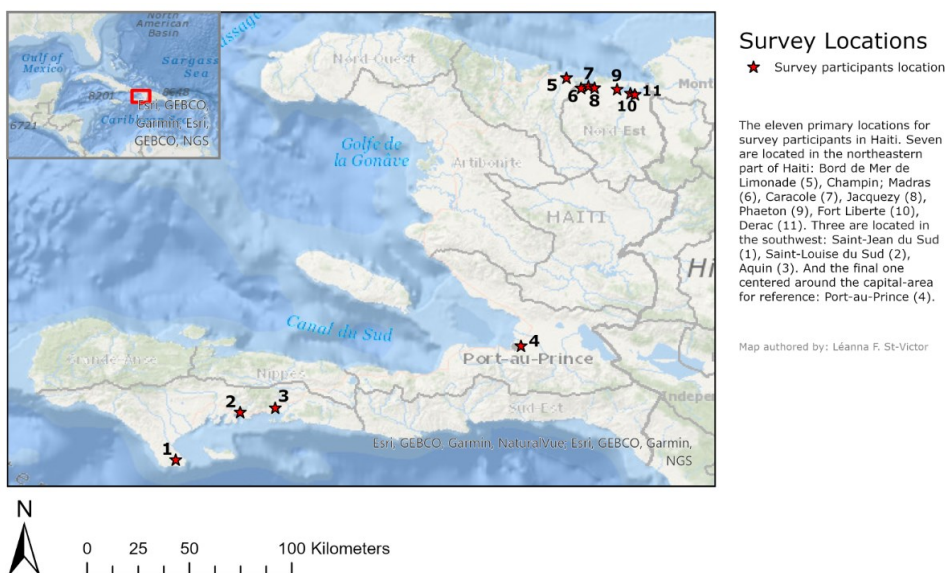


Figure 17. Map of survey locations in Haiti.

## 4.5 Conclusion

In conclusion, this chapter has provided an overview of the results and findings from my literature review, case studies, and survey, shedding light on various aspects related to the manatee within different socio-cultural contexts. The next chapter will delve deeper into the analysis and discussion of these findings, aiming to interpret the implications, patterns, and insights gathered from the data presented herein. By critically examining the results and situating them within my theoretical frameworks, the following chapter will offer a more detailed understanding of the complexities surrounding our understanding of the changing role of manatees. It will lead to a more informed conclusion on how socio-economic and cultural forces drove, limited, and allowed for the exploitation of manatees before and after the colonization of the Caribbean, and if it had any consequences for societal development and the oceans.

## Part V: Discussion and Analysis

### 5.1 Introduction

In this chapter, I carry out a systematic examination of the findings from the previous chapter, aiming to analyze and discuss their implications within the framework of my research questions. I will begin by reflecting on results from the literature review, before moving on to the Maya culture, highlighting discoveries such as human figurines crafted from manatee bone and the prevalence of faunal remains, particularly in sites like Moho Cay (see II3). As the discussion transitions to Taíno culture, a discernible shift will be noticed, with a decreased emphasis on faunal findings and a heightened focus on ritual objects, notably those associated with the cohoba ritual. Throughout these analyses and discussions, I explore the interconnectedness of the Antillean islands with its roots tracing back to the Maya culture, before moving on to trace the historical transformations of manatee perceptions and exploitation within European contexts. This thematic assessment extends into the examination of survey data, and the presentation of contemporary issues surrounding the awareness and conservation of manatees.

### 5.2 Literature Review

In the literature review, an interesting pattern emerged from the steadily growing number of publications concerning the manatee over the decades, indicating a continuous unification within academia. I drew some inspiration from the only other systematic literature review on manatees I found in my database (see I44) and observed a lack of archaeological and zooarchaeological additions there, further prompting my own efforts to address this gap in my literature. My predominance of English-language literature, however, means there is a substantial portion of articles being excluded from the review. Hopefully, academia will continue to progress towards a more included and systematic gathering of multi-disciplinary research.

The scarcity of literature concerning artifacts crafted from manatee bone or faunal records containing manatee bone was not unexpected. Despite my efforts to gather information and recommendations from experts in Caribbean archaeology and manatee research via email correspondence, it became evident that published research in English on this topic is limited. Cristina Brito, Associate Professor at the History Department at NOVA FCSH, Lisbon, and one of

the principal investigators of 4-Oceans, asserted that there existed an abundance of literary sources in French, Portuguese, and Spanish languages. This observation was corroborated when I promptly received a Spanish paper detailing the discovery of vomitivos made from manatee bone in the Banes region of Cuba (see I157) by archaeologist Lourdes Perez Iglesias.

Conversely, inquiries made to Dr. William F. Keegan, former Chairman and Curator of Anthropology at the Florida Museum of Natural History, yielded no information regarding manatee bones in Caribbean collections. Similarly, Gene Shev, Postdoctoral Researcher at the NWO Spinoza-funded project CaribTRAILS and former PhD researcher at Leiden University Faculty of Archaeology for NEXUS1492, indicated minimal encounters with manatee bones in recent archaeological sites. Elizabeth J. Reitz, zooarchaeologist and Professor Emerita at the University of Georgia, reported unsuccessful attempts to locate manatee records, particularly for the colonial period in the continental USA. Dr. Noémie Tomadini from the Muséum National d'Histoire Naturelle also noted an absence of skeletal remains attributable to manatees in her assemblages, despite historical texts suggesting their intensive hunting during the European colonization period. Thus, while my search for archaeological evidence proved challenging, I was given valuable information on historical sources with mentions of manatees.

## 5.3 Case Studies

### 5.3.1 Maya

The Maya civilization utilized manatees in several ways, with their primary use being for food and as a material for crafting artifacts and sculptures. Archaeological excavations across sites in Maya areas have uncovered remains of manatees (see appendix II and III). Despite the relative frequency of faunal finds at Maya archaeological sites, the pre-Hispanic indigenous population of the region did not significantly impact or cause the extinction of these marine animals, as populations remained abundant until well into colonial times (Muñoz et al., 2014, p. 18).

From the Yucatán Peninsula alone, multiple sites (see figure 18) have yielded either zooarchaeological material or iconographic evidence of manatees. Ethnohistorical records indicate that the animal held importance in ancient Mesoamerica, as their meat, fat, and bones were all utilized, with the latter serving as raw material for sculptures (Muñoz et al., 2014, pp. 25-26). The manatee has been a subject of study in

the Maya area, notably in Heather McKillop's seminal work published almost four decades ago (McKillop, 1985; 1984, as cited in Muñoz et al., 2014, p. 27).

Manatees are particularly prevalent in archaeological records in Belize, indicating a consumption of its meat, with bones being used for crafting items such as sculptures, needles, musical instruments, and canoe models (McKillop, 1985). These remains suggest that manatees were traded or consumed, with artifacts made from their bones perhaps holding some significance. However, despite reports of manatee presence in several locations, details about their utilization still remain somewhat limited (Roca & Iglesias, 2015, p. 98).

The archaeological evidence from Belize suggests that coastal areas served as trading hubs or potential religious centers (McKillop, 1996, p. 50). The extensive network of rivers likely facilitated the transportation of goods from the coast to inland areas, often associated with elite members of Maya society (McKillop, 1985, pp. 337: 347). Considering the proximity of sites with manatee bones to rivers and bodies of water, it is plausible that manatee-derived goods and food were part of this trading network.

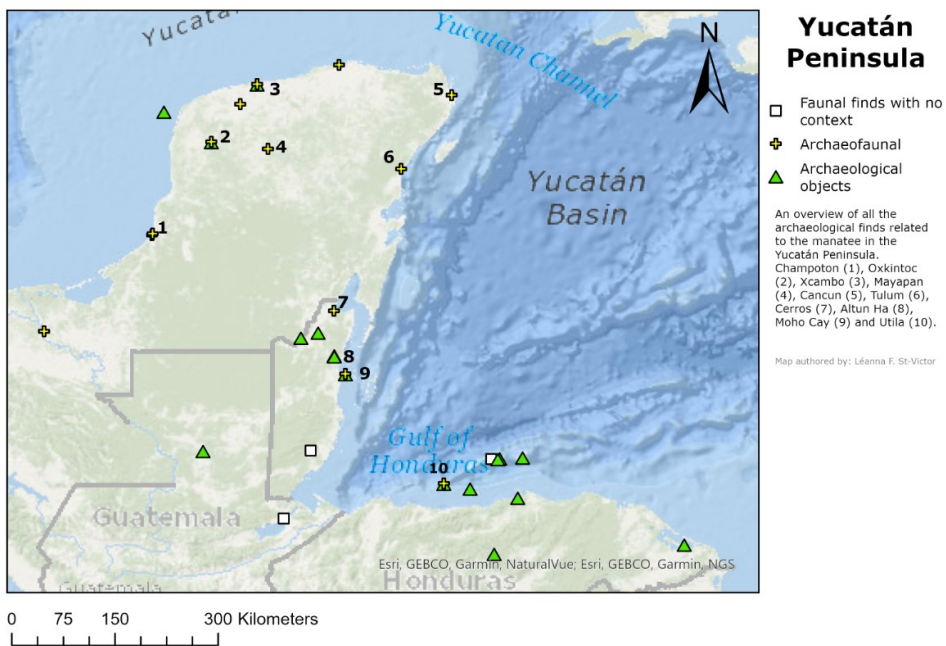


Figure 18. Map of archaeological finds on the Yucatán Peninsula.



### *Analysis of Faunal remains at Moho Cay*

Prehistoric exploitation of manatees in the Caribbean region was par for the course for ancient settlers in the Maya area and other parts of mainland Central America and the Caribbean West Indies (see figure 13), and early observations noted the occurrence of manatee bones at coastal sites in Belize. Manatee contributed to the Maya diet at sites like Moho Cay, Cerros, Cancun, Champoton, Mayapan, Oxkintoc, Tulum, Xcambo, Utila and more (see figure 18 and appendix II). However, the reliance on manatee at the Maya Island site of Moho Cay, Belize is unsurpassed in the Maya area.

Moho Cay was explored and excavated by Heather McKillop in the 1980s. It was a small settlement of traders, situated at the mouth of the Belize River and occupied from the Late Preclassic to the Postclassic Period, and it revealed a number of manatee bones (McKillop, 2004, p. 260). The abundance of manatee bones led researchers to characterize Moho Cay as a *Maya fishing site*, where manatee hunting was a common activity (McKillop, 2004, p. 261).

Identification and analysis of animal remains from a Middle Classic Period (AD 400-700) midden at Moho Cay provides evidence for the role marine resources had in prehistoric coastal Maya diet, offering insight regarding interpretations of their subsistence economy. Furthermore, analysis of artifacts and animal remains from the island site suggests the prehistoric use of boats, fishing nets, lines, and harpoons for capturing sea animals (McKillop, 1984, p. 25).

Many of the manatee bones excavated exhibited signs of prehistoric butchering, with deliberate breakage noted on the ribs. Analysis of midden contents revealed a reliance on manatees as a food source during the Middle Classic Period. In fact, manatee covered 89% of the estimated meat consumed (see appendix II). While the prevalence of manatee consumption among the prehistoric Maya has not been broadly documented, its significance as a dietary staple at Moho Cay is evident, given its high meat yield per individual and its abundance in the coastal waters near the island (McKillop, 1984, pp. 28-29: 34; Muraoka, 2019).

The large quantity of manatee skeletal remains also suggests the use of offshore technology for manatee procurement. Ethnohistoric and ethnographic accounts of manatee hunting offer additional insights into potential prehistoric Maya hunting methods, resembling practices of contemporary Central American groups such as the Miskito, Rama, and coastal Belizean fishermen. It is plausible that manatees captured



by the Classic Period Maya at Moho Cay were hunted using similar methods (McKillop, 1984, pp. 29-30). Furthermore, carved boat models made from manatee rib bones discovered at Moho Cay resemble known Classic and Postclassic Period canoe models from other archaeological sites (see figure 19). Large pumice stones found in the vicinity may have served as floats, consistent with historic reports of them using large floats with harpoons when hunting manatees (Carvajal, 2014, p. 118; McKillop, 1984, pp. 30-31).

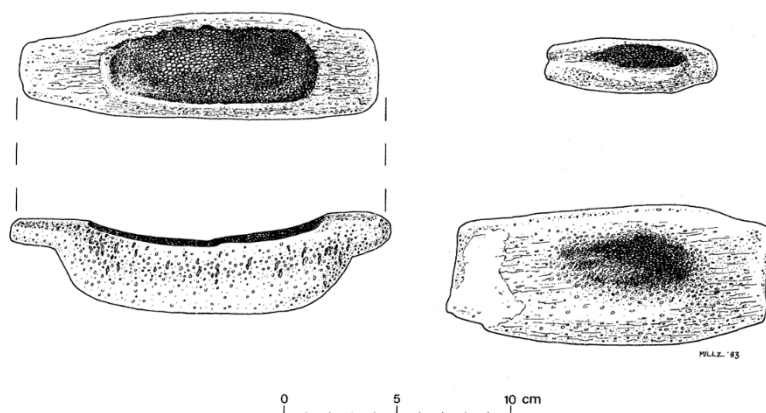


Figure 19. Canoe models made from manatee bone from Moho Cay, Belize (III61-65). Source: McKillop, 1985, p. 343.

### *Compared to Other Sites*

Despite being abundant in terms of zooarchaeological findings on Moho Cay, manatee remains are still relatively scarce compared to other animals in Mesoamerica. While there is no conclusive evidence indicating a similar reliance on manatees among other coastal Maya groups, a few other prehistoric Central American communities have demonstrated evidence of including manatees in their diet (see figure 13 and 18, and appendix II). Historical records spanning from the 16<sup>th</sup> to the 20<sup>th</sup> centuries document the exploitation of manatees by Central American peoples, describing the past dietary and ceremonial significance of this animal.

Distance likely played a role in the selection of marine and other animal-food resources by the prehistoric Maya. The Classical Period Maya relied on a variety of animals near their respective settlements. In offshore island communities like Moho Cay, marine resources probably constituted a significant portion of their animal food intake. Conversely, at mainland coastal and near-coastal settlements such as Altun Ha, Oxkintoc and Mayapan, marine resources may have

supplemented the dietary intake of mainland and riverine animal meat. In more interior settlements, marine remains have been found in burials and caches rather than refuse deposits, suggesting occasional and possibly elite, consumption of seafood (McKillop, 1984, pp. 33-34). Certain rare mammals and marine species may have been obtained through trade, and the ways in which resources were used at inland Maya sites might have been linked to larger economic systems connecting coastal and inland areas of the city region (Masson & Lope, 2008).

While manatee meat looks to mostly have been a coastal dietary item, carvings and objects made from manatee bone have been recovered from both coastal and inland sites, indicating their cultural importance across Maya communities.

### *Analysis of Classical Maya Artifacts*

#### **Stylistic Typological Analysis of Manatee Bone Figurines**

Analysis of artefactual finds from Maya sites further exemplifies a successful strategy of manatee exploitation by the Classic Period Maya (McKillop, 1984, p. 34). Six Maya figurines, carved from the rib bone of Antillean manatees, have been central to my findings (see appendix VII: table 7). Characterized by rounded, large thighs, a placement of hands upon the chest, and a relaxed mouth, making the figurines seem almost serene. There is also the fact that the facial features on many of the figurines is similar in style to ancient Olmec figurines and masks.



*Figure 20. Yale figurine (III155). Source: Yale University Art Gallery (2002.15.8) in O'Neil, 2002, p. 92.*

Of the six figurines, one was donated to the Yale University Art Gallery, while two others were unearthed in coastal Belize, including one from an Early Classic burial at Altun Ha (AD 500), and another at Oxkintoc in an offering context (see figure 21). These figurines share similarities in dimensions, proportions, and stylistic elements with the Yale example (see figure 20), including broad, gently curved shoulders, rounded bottoms, and swelling thighs. Adorned with masklike faces, two are further decorated with striated hair mass or headpieces. The archaeological contexts suggest that the Yale figurine likely also came from a coastal Maya site in Belize or Mexico's

Yucatán Peninsula. Its good state of preservation implies a possible elite context, akin to the figures found at Altun Ha and Oxkintoc (Muñoz et al., 2014, pp. 44-45; O'Neil, 2002, p. 93; Vega, 1990).



Figure 21. Figurine made from manatee bone from Altun Ha (III93). Source: Royal Ontario Museum, in O'Neil, 2002, p. 94.

Excavations in a midden (AD 400-700) on Moho Cay revealed three additional manatee-bone figurines (see figure 22), alongside various finished and unfinished objects – including tools, musical instruments, and miniature canoes – made from manatee bone. Heather McKillop (1985) argued that the presence of both finished and unfinished pieces suggests ongoing production of manatee bone carvings on Moho Cay.

However, questions surround the stylistic and technical attributes of these bone figurines. While certain elements intentionally imitate the ancient Olmec style, such as the masklike face; the curvy bodies depart from the simplified forms typically seen in Olmec representations. Furthermore, the proportions of the figurines, a 1:4 head-to-body ratio, is more common in Early Classic Maya styles, rather than the conventional 1:3 ratio of Olmec figurines. There is also a subtle difference in form between the figures discovered in ritualistic contexts and those found in the midden. However, this variation could potentially be attributed to the fact that the figurines from Moho Cay likely were considered unsuitable for use in other contexts and were deposited into a waste disposal site. Overall, the stylistic and technical attributes of the bone figurines suggest a connection to Classical Maya aesthetic traditions,

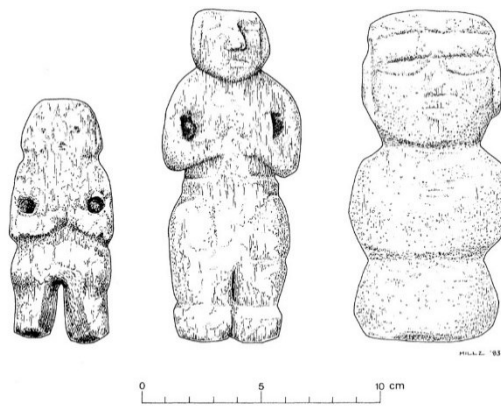


Figure 22. Figurines made from manatee bone from Moho Cay, Belize (III68-70). Source: McKillop, 1985, p. 342.

supporting the archaeological evidence (O'Neil, 2002, p. 93; Vega, 1990). But how can we interpret the similarity to Olmec traditions?

In her 2002 article, *"Bone into Body, Manatee into Man"*, Megan O'Neil suggests that these figurines may represent a transitional style from earlier Olmec to later Maya traditions. However, since the figurines are dated to around AD 500, well into the Classic period, it challenges the notion of a lengthy transition. While they could be seen as heirlooms passed down through generations, their exclusive appearance in Early Classic contexts suggests otherwise (O'Neil, 2002, p. 95). Discovering some figurines alongside unfinished objects made of manatee bone in Moho Cay weakens the argument further, since it indicates contemporaneous, localized production during this period (O'Neil, 2002, p. 95). These late appearances of Olmec styled items may then have been a deliberate choice of stylistic retrospection. This phenomenon is occasionally observed throughout ancient Maya art, motivated by factors like aesthetics, politics, religion, or a combination thereof. By reusing and recontextualizing an older style, the artist creates a dialogue between the past and present within the material realm (O'Neil, 2002, p. 95).

O'Neil (2002, p. 96) further discuss the interpretation of these figurines, theorizing on the metamorphosis from bone to body, from manatee to human. Traces of the material's original form—the manatee— however, live on within the object itself. The symbolic

meaning of its biological origin would not have been lost, as the bone comes from a creature naturally adapted to aquatic environments. Placed within the tomb of a Maya noble, this figurine accompanied the deceased on their journey through the watery underworld (see figure 23). Ancient Maya communities residing near coastal regions were likely aware of the manatee's ability to swim in both freshwater and saltwater, perhaps regarding the manatee as a symbol of transition. Creatures like this held favour in ancient Maya art and burial customs, as their

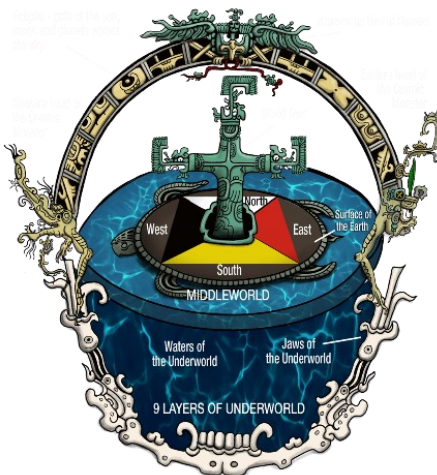


Figure 23. *The watery underworld, Xibalba.* Based on a diagram from *Maya - Divine Kings of the Rainforest*, by Nikolai Grube, 2001.

ability to travel through diverse environments suggest they could assist humans in spiritual crossings, whether physical or metaphorical. Their final journey symbolizes the greatest transition, from life to death, from one world to another, with the manatee serving as a guardian guiding them (O'Neil, 2002, p. 96).

### Practical Artifacts

As previously mentioned, the archaeological site of Moho Cay also yielded an array of practical instruments and tools crafted from the manatee bone, including musical rasps (see figure 24) and miniature canoe models (McKillop, 1985, pp. 342-345). While these objects may not directly depict manatees or other aquatic animals, they underscore the usage of this taxon in carving practices (Muñoz et al., 2014, p. 44).

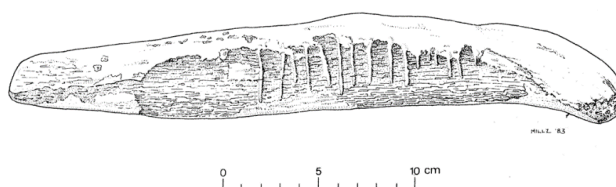


Figure 24. Musical rasp made of manatee bone from Moho Cay, Belize (III72-75). Source: McKillop, 1985, p. 343.

Musical rasps crafted from manatee rib bones have been uncovered at various coastal and inland Maya sites. And the canoe models likely represent actual boats used by the ancient Maya for fishing and transportation (see figure 19). The similarity between these models and image representations of boats from later periods indicates continuity in boat design (McKillop, 1984). The reliance on boat travel for hunting may have placed a greater emphasis on the exploitation of marine resources compared to mainland animal hunting. Excluding river environments where nets could be waded into place, the canoe was most likely also a required tool for manatee hunting (McKillop, 1984; Vega, 1990). Other artifacts of manatee bone have also been reported from Maya sites (see appendix III and VII). Furthermore, the depiction of manatee heads on pottery vessel lugs and ocarinas with manatee motifs from the Bay Islands (see figure 25) hints to the symbolic importance of these animals in Maya



Figure 25. Ocarina with manatee motif from the Bay Islands (III122). Source: © The Trustees of the British Museum (Am1938,0609.96).

culture. Animals often served as sacrificial offerings and were a common motif in prehistoric Maya art. The presence of manatee imagery in artistic depictions, together with the known dietary and artifactual use of manatee meat and bone suggests that they may also have been part of prehistoric myths, rituals, and religious practices (McKillop, 1985, pp. 340-345; Strong, 1935).

### 5.3.2 Taíno

During the development of Taíno cacicazgos (see figure 26), there was a transition from achieved to ascribed leadership strategies resulting in a hereditary transfer of political power. By the contact period, powerful caciques were revered as semi-divine beings. Rituals such as cohoba ceremonies, performed by behiques and sometimes caciques, involved ingesting hallucinogens to induce altered states of consciousness as a way to converse with otherworldly entities (Mol, 2011b, pp. 12-13).



Figure 26. Taíno chiefdoms, Hispaniola (Quisqueya). Source : República Dominicana.

In Taíno contexts, the scarcity of faunal remains suggests a limited incorporation of manatee in the diet, with sporadic occurrences primarily observed as isolated finds (see appendix II). The Taíno held substantial influence within contemporary societies, partly through the establishment of unique political and religious systems. Rooted in animism, their spiritual practices, exemplified in the veneration of cemís, showed reverence for ancestral spirits and the perceived inhabitation of spirits within natural elements (Medrano-Marra, 2009). The Pre-Columbian art of the Caribbean is characterized by its symbolic and iconographic representations, serving as a visual medium for conveying narratives and themes related to established beliefs. From the Ceramic



expansion of the Saladoid to the Taíno era, Antillean art depicted religious and mythological motifs, often turned into tools for ritualistic ceremonies. Pottery with adorned animalistic pieces can also be found (see appendix III and VII).

The association between manatees and the animistic view of Antillean peoples remains ambiguous; however, the presence of manatee bones in burials (see III11 and III6) may imply a form of ritual offering. Alternatively, bones could have been deposited as dietary waste, considering the practice of burials in locations previously used for domestic activities. The sturdy bones of the manatee (ribs, scapula, pelvis, and cranial sections) were fashioned into different artifacts. Despite their known origin, contextual information on these artifacts is still quite vague (Roca & Iglesias, 2015, pp. 90-91; Vázquez, 2015).

### *Faunal Analysis*

Most archaeological finds involving manatee remains has lacked the precise contextual data necessary for evaluating the width and depth of the utilization of these animals. But ethnographic records from the 15<sup>th</sup> and 16<sup>th</sup> centuries provide some insight about consumption of sea animals by the indigenous population (Roca & Iglesias, 2015, p. 86). Throughout the Late Ceramic Age, there seems to have been a notable emphasis on marine foods, yet larger animals such as manatees are not frequently encountered in archaeological assemblages (Fitzpatrick, 2015, pp. 321-322).

In the Antilles, remains are usually not found in abundance at individual sites. Consequently, it is currently challenging archaeologically to determine whether manatees were regularly or intensively exploited (LeFebvre, 2015). In her synthesis of pre-Columbian mammal exploitation from 2012, Elizabeth Wing explains that manatee remains are not usually found at sites because the very large animals were likely butchered along beach shorelines, where the large bones were left after meat extraction. In the past, the distribution of manatees were probably higher, particularly along coastal regions, which would have justified any use by the indigenous peoples of the Antilles. Reports of manatee remains at inland sites are even more scarce (Vázquez, 2015).

Only a few sites contain explicit evidence of manatee consumption, thereby making it difficult to accurately conclude the historical significance of these animals in the diet of the pre-Columbian inhabitants (Roca & Iglesias, 2015, p. 86) (see appendix II). Factors

## Rising Sea Levels

*The Caribbean islands are not stationary entities but have undergone continuous evolution due to dynamic interactions between land and water. Throughout history, islands have risen and sunk, altering the region's geographical landscape. These shifts in sea levels have had big effects on pre-Columbian populations, archaeological sites, and have shaped many coastal ecosystems. In his thesis from 1990, Dr. Jesus Vega documents discoveries of manatee bones on the submerged site of Isla Verde, where divers have encountered manatee ribs resting on the seabed.*

such as elevation, distance to the sea and proximity to rivers could have something to do with it also, and should be taken into consideration (Hofman et al., 2018).

At En Bas Saline (see figure 27), it is possible to discern differences between the distribution of ornaments and ritual items, and their correlation to patterns in food consumption. Elites tended to consume more mammals and larger, less bony fish compared to non-elites (Crock & Carder, 2011, p. 575). Zooarchaeological research conducted at En Bas Saline has aimed to identify pre- and post-contact patterns of animal exploitation, describing the type of animal protein consumed in the Taíno diet. Dr. Elizabeth Wing and her team analyzed taxa excavated from the site during the 1980s field seasons. Only one marine mammal, a manatee, was identified in the assemblage, occurring in only one elite household feature, Pit Feature 49 (see II17) (LeFebvre, 2015).

*Artifact Typology and Iconographic Analysis: The Cohoba Ritual*  
Myth often carries a negative association in scientific studies, yet anthropologically, myth is seen as a ritualized narrative, providing purpose, answers, and behavioral models. Traditional worldviews, especially in spiritual contexts, focus on existential questions of why things happened, rather than just how. Science primarily addresses the "how" of phenomena, avoiding existential questions. Amerindian societies' narratives and rituals were integral to individual and group identities, with mythic beings influencing decision-making and ceremonies. Behiques played authoritative roles, sometimes alongside



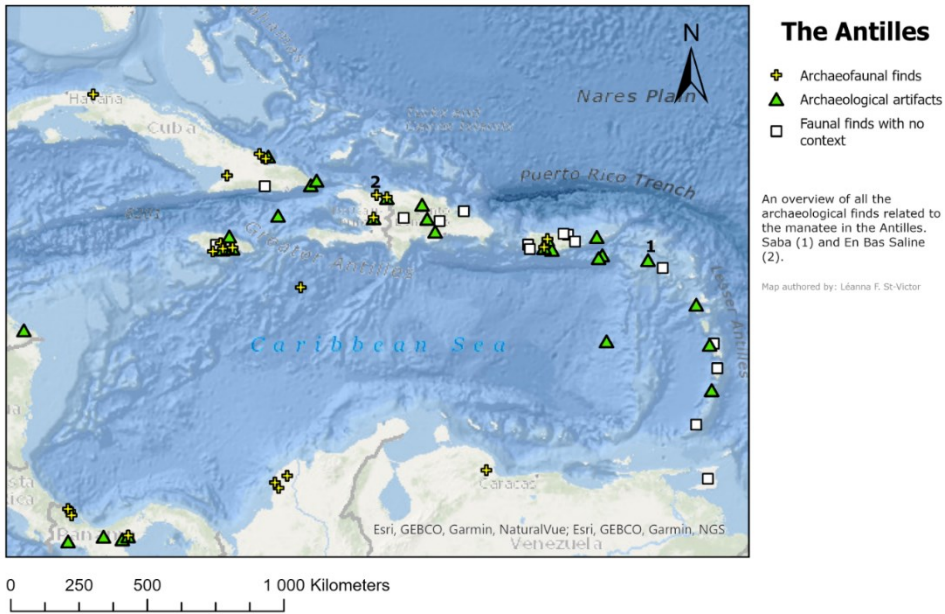


Figure 27. Map of archaeological finds in the Antilles

caciques, illustrating the blending of myth, ritual, and governance in ancient Antillean cultures (Waldron, 2018).

This said, the narratives that are known today were documented by Spanish and French observers and recorded by friars who sought to understand the Amerindian worldview in their efforts to convert them to Christianity. It is important to recognize that these accounts are inherently biased, prone to omissions, exaggerations, and potential misinterpretations. Our understanding of Taíno beliefs largely stems from the documentation by friar Ramón Pané during his travels to Hispaniola. He observed that the indigenous people did not differentiate between an object of worship and the divine being it represented, suggesting an existence of matter-spirit bounded entities (Rodríguez Lopez, 2016, p. 455; Schwantes, 2011; Waldron, 2018). The Taíno animistic worldview included the belief that all beings, whether humans, animals, or objects, possessed agency (Rodríguez Lopez, 2016, p. 455; Schwantes, 2011). This worldview mirrors the iconography of early continental art, becoming a common style in South American and Antillean Amerindian cultures. The imagery indirectly hints at a dual animistic worldview associated with the ritual use of hallucinogenic drugs in shamanic practices (Rodríguez Lopez, 2016, p. 455).

## Placing Iconography into the Taíno Cosmological World: Vomitivos and Cemí's

The iconography of the Pre-Columbian Caribbean artifacts shows designs connected with a cosmological belief the Saladoid would have carried from South America (McGinnis, 1997). There is much evidence throughout the region of the importance of shamanic beliefs and practices. Symbols and images from the area express a belief that hallucinogenic trance allows transformation from one creature to another, and indications of transformation between human and animal forms also exists (McGinnis, 1997). Not only did the Taíno, on their mammal-poor islands, depict on their artifacts an interest in fellow mammals, but they often portrayed liminal creatures that according to them, could access other worlds (McGinnis, 1997).



Figure 28. *Cohoba inhaler (III14)*. Clear depiction of navel. Source: *Fundacion Garcia Arevalo*

The cosmology of South America and the Caribbean reflected a belief in nature spirits inhabiting the forest, sky, rivers, mountains, and ancestral items. Social cohesion was upheld through appeasing these spirits, with their mythological motifs often blurring the boundaries between humans and animals, and transformations between them being commonplace. Their cosmological world is influenced by the environment and by creatures from indigenous stories and narratives recorded by European missionaries during early colonial times. They incorporate indigenous fauna such as lizards, crocodiles, canines, birds, bats, manatees, fish, and frogs into their animistic assemblage (Hofman & Hoogland, 2016, pp. 66-67; Reid, 2004) (see appendix VII: table 8). The Antilleans, akin to Maya cultures, believed in a *multiverse* concept (Rodriguez Lopez, 2016, p. 469). Conceptualized as a multi-layered construct resembling a tree or cave, the universe comprised three primary realms: The sky world associated with the sun and masculinity; the underworld linked to the moon, femininity, water, and reptiles; and the material world, serving as an intermediary realm inhabited by indigenous people and animals (Reid, 2004) (see figure 31).

Furthermore, for people living in the Antilles, islands were seen as flat-bottomed cones, symbolized by the trigonal cemís representing the agro-deity Yúcahu. The earth, resembling a turtle or crocodile's back, emerged from the watery underworld inhabited by spirits. Water



Figure 29. *Vomitivo, lizard (III124)*. Source: *The Metropolitan Museum of Art (1982.48.4)*

symbolized the realm of disembodied entities (Rodriguez Lopez, 2016, p. 469). Ancestral worship and cyclical time were important aspects of the culture, and death was viewed as a transition rather than finality, with the deceased evolving into spirits residing in another cosmic realm, occasionally visited by behiques (Reid, 2004).

Ancient Antilleans imagined this place to be Coaybay, a paradisiacal afterlife on the mythical island of Soraya. Spirits of the deceased, known as *opía*, could materialize at night in the form of bats or owls, savoring sweet guavas in our world. They could also manifest in humanoid forms; however, their otherness could be discerned by whether they had a navel, as *opía* lacked this feature (Botta, 2022; Rodriguez Lopez, 2016, p. 469). Bats and birds became common symbols in Antillean art – often shown in a crouching position – especially in funerary and shamanic contexts, as well as in objects associated with ancestor reverence and marriage. Artifacts, such as cohoba inhalers adorned with bat designs and spatulas resembling wings, imply a connection with nocturnal spirits or *opías*. Deities like Maquetaurie Guayaba and Opiyelguobirán are often associated with representations of bats and dogs, which are interchangeable (see figure 30 and appendix VII: table 8). The abundance of depictions featuring these mammals may also be tied to the environmental and faunal characteristics of the region (Rodriguez Lopez, 2016, p. 469; McGinnis, 1997).

Vomitive spatulas held ritualistic value and were exclusively utilized by Taíno behiques during the cohoba ceremony. The spatulas not only played a functional role in the ceremony but also served as a symbol of prestige for the individual using them, enhancing the visual appeal of the event. Their size, quality of carving, and style contributed to the overall impression of the user's status (Beeker et al., 2002).



Figure 30. *Vomitivo. Bat with wings (III15)*. Source: *Fundacion Garcia Arevalo*

The spiritual journeys were further empowered by ingesting hallucinogens, inducing altered states of consciousness. The axis mundi, a sacred axis, worked for the behiques as a navigation system between worldly layers, often represented in physical forms like caves, central plazas, or houses (Reid, 2004) (see figure 31).

Cemís on the other hand, could be considered acting agents. The behique and the cemí negotiate different stages of transformation from, say, a piece of bone with an unrecognizable identity into a proper *body*. Through the cohoba ceremony, a cemí can reveal themselves and can present a personality: cemís should have a name, a human-like or animate body, and even titles; so, they could have a proper social rank and a lineage. By means of the cohoba, the cemí could become related to a particular human being, and this link reinforced their political and social status. Thus, the concept of cemí did not only symbolize a form of worship of divine beings but was a culturally constructed form of socialization meant to give agency to specific physical elements that needed to be addressed (Botta, 2022).

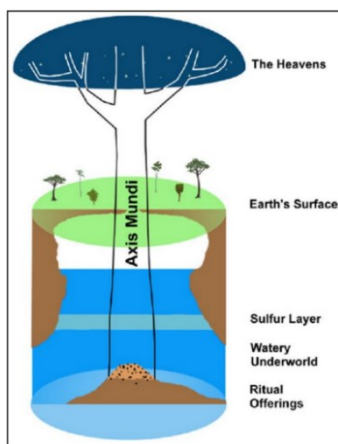


Figure 31. *The Manantial de la Aleta as the axis mundi. Shows resemblance to the Maya worldview. Source: modified from Siegel 1997:108, in Beeker et al., 2002, p. 20.*

### The Bared Teeth Motif

In their 2010 article on the bared-teeth motif (BTM) often observed in pre-Columbian Greater Antillean iconography, Samson and Waller challenges the traditional associations this motif has had with death, aggression, or shamanic trance, proposing it to be a positive facial expression akin to a smile. Early Spanish texts depict items featuring the motif as a devilish grimace, influenced by Christian discourse (Samson & Waller, 2010, p.428). However, the BTM's potential as a cooperative social signal, like a smile, suggests its role in aiding complex social interactions



Figure 32. *Cemí with BTM and navel (III156). Source: Yale University Art Gallery (2014.121.95)*

## Caves as Doorways to Another World

*Caves held importance in Taíno culture, serving multiple purposes. They were used for burials and as temporary refuges. According to Taíno mythology, the first peoples of Hispaniola came from caves, and the Sun and the Moon were believed to also have emerged from a cave. They were linked to ancestral spirits and served as portals and gateways between the earthly realm and the underworld, enabling communication with ancestors. The practice of caching objects in caves is prevalent in the Greater Antilles where most cohoba material is found, and may reflect broader cultural practices, as they could have been placed there as offerings to honor and appease the spirits of the ancestors in the underworld (Beeker et al., 2002; Schwantes, 2011).*

among ancient Caribbean societies. Its prevalence across social contexts underscores its value, possibly serving as a dominant strategy in Taíno social interaction and gift giving (Samson & Waller, 2010, pp. 429-430). In the animistic worldview of the Taíno, where the natural environment and spirits were active participants, clear communicative signals like the bared teeth motif could have played a role in navigating social relationships and maintaining balance. Artifacts featuring the BTM, often considered shamanic tools, also visualize the shaman's purportedly benevolent abilities in accelerating healing interactions (Samson & Waller, 2010, p. 432) (see figure 32 and appendix VII: table 8).

### The Cohoba Inhaler at Saba: An Interconnected World

As mentioned, artifacts and paraphernalia played essential roles in ensuring the success of the ceremonies during cohoba ritual performances. On Saba, a notable discovery was made of a cohoba inhaler made from manatee bone, designed to resemble a fish (see figure 33). Excavated within the Kelbey's Ridge 2 site, burial F068, which contained the remains of an adult male and the cremated remains of two children and dated to AD 1300-1350. Features include traces of



Figure 33. Inhaler shaped like a fish (III6).  
Source: Caribbean Ties Exhibit - NEXUS1492

resin in the eyes, possibly used to attach small inlays, and a Y-shaped perforation linking the mouth to openings behind the gills (Hofman & Hoogland, 2016, pp. 66-67). Kelbey's Ridge 2, with its material culture affiliations

and demographic composition, is as per today interpreted as an outpost of a Taíno cacicazgo. The site is comprised of four or five household units and offer a window into the daily activities and cultural practices of its inhabitants. Burials within the houses, beneath floors, reflect burial customs of the time, and the presence of children buried alongside adults suggested communal burial practices, revealing the familial and social dynamics of the community (Hofman & Hoogland, 2016: 2011).

The cohoba inhaler stands as the sole pre-Columbian record of manatees on Saba. While such ceremonial paraphernalia are common in Taíno sites across the Greater Antilles, their presence in the Lesser Antilles is noteworthy. Firstly, there exists a contrast between the Greater and Lesser Antilles on the complexity and prevalence of drug-related artifacts. During the Chican Ostionoid period in the Greater Antilles, there was an increase in intricate cohoba objects, including vomiting spatulas and cohoba inhalers, indicative of drug ritual practices. Such items are rare in the Lesser Antilles and are often regarded as imports or imitations. In Shirley McGinnis' 1997 study, she documented 207 cohoba-related artifacts in the Caribbean, with only seven found in the Lesser Antilles. This raises questions about the purpose and significance of cohoba paraphernalia in southern regions.

Their rarity suggests sporadic rather than extensive exchange, implying they held value beyond their functional and cognitive roles in the cohoba ceremony. The exchange of artifacts likely influenced the spread of associated symbolism, akin to cemís being exchanged in the Greater Antilles, potentially spanning generations (Ostapkowicz et al., 2011, pp. 152-153). Secondly, the absence of suitable habitat for manatees on Saba also suggests that this artifact was likely introduced to the island, further highlighting an interconnectedness between indigenous communities across the Caribbean (Debrot et al., 2006, p. 2; Hofman & Hoogland, 2011).



Figure 34. Effigy (III138) with possibly twins Boinayel and Márohu. Source: Museo del Hombre Dominicano

### Ceramic Traditions and Different Motifs

In recent years, an increasing number of Caribbean sites have been submitted to radiocarbon dating and documentation, revealing an



interplay of ceramic styles that suggests intercommunity interaction (Hofman et al., 2018).

Compared with earlier and later prehistoric ceramic traditions, Ostiones pottery is rather plain, more functional than artistic (Fitzpatrick, 2015; Vega, 1990). The Chican Ostionoid subseries saw some developments in ceramic production, with modeled-incised decoration featuring prominently. Variability in the intricacy of designs existed among different styles and reflected regional preferences. Religious paraphernalia increased in number, indicating heightened religious, political, and social complexity (Curet, 1996).

Analysis of pre-Columbian Caribbean cultures can sometimes lead to misinterpretations at macro and micro levels. Macrolevel scrutiny may mistakenly suggest widespread interregional interaction due to shared material traits, while microlevel examination reveals distinct cultural units with unique characteristics. Macrolevel analysis then prioritize ideologically significant items, potentially oversimplifying interaction patterns, while microlevel focus on ceramic style can lead to overly fragmented interpretations. Both perspectives offer valuable arguments, as understanding artifact distribution and stylistic diversity shed light on interaction dynamics (Mol, 2011a, pp. 74-75).



*Figure 35. Pottery tripod waived jar with manatee adorns and legs with punched decoration (III120). Source: © The Trustees of the British Museum (Am1938,0609.133)*

The anthropomorphically and zoomorphically modeled figures usually seen on pottery can be understood in terms of the Amerindian worldview. Zoomorphic lugs may stand for mammals such as manatees (Hofman & Hoogland, 2016, pp. 66-67) (see figure 35). Potters exhibited a particular affinity for depicting people, sacred animals, and fantastical creatures on their vessels. These zoomorphic and anthropo(zoo)morphic figures imply a vast system of mythological beliefs.

Bats represented on art may symbolize belief in cyclical time or life and death in Taíno cosmology. Human faces and anthropomorphic images, representing ancestor veneration among the Taíno, may have functioned as references for establishing genealogical connections with deified family members (Reid, 2004). Frogs, symbolizing the deities Atabey and Yúcahu, water,

femininity, and the underworld, are commonly represented in both Caribbean and South American iconography (see appendix VII: table 8). Manatees could also be associated with the underworld in Amerindian belief systems (Arrom, 1980). These zoomorphic and anthropo(zoo)morphic ceramic pieces likely had functions akin to *cemís*, embodying spiritual power and aiding in the maintenance of worldly balance (Reid, 2004).

### Discussion: The Role of Manatees in Taíno Society

Taíno bone implements, notably carved *vomitivos* resembling the manatee ribs they often were crafted from (see figure 36), hold weight in Taíno ritual practices, and reflects cultural attitudes towards bones in death, life, fertility, and healing. These artifacts offer a unique avenue for zooarchaeological inquiry – on the material selection for ritual objects and the importance of manatee bone in Taíno ideology. While zooarchaeological investigations into Taíno assemblages have been limited, future analysis could improve our understanding of Taíno socioeconomic dynamics, identity, and ritual practices. Taíno rituals and mythology point to a belief in the transformative power of bones, that death is a transitional state from which new life begins. Ritual bone implements were used in communication with ancestors and deities. Their access may have been restricted to elite members of Taíno society, serving as symbols of status (Khalsa, 2014).



Figure 36. Manatee photogrammetry (II80) from the University of Bergen (BM 329). Photogrammetry: Léanna F. St-Victor & Krister M. Sørsæther

*Vomitivos* seem to be predominantly crafted from manatee rib bones, but items made from wood and human bone has also been discovered (Beeker et al., 2002). Given the absence of medium to large terrestrial mammals in the Greater Antilles, manatees might have held some value. While the regularity of manatee hunting remains uncertain, it likely underwent some form of regulation by *caciques*. Although archaeological evidence is lacking, it is plausible that manatee consumption was reserved for elites or only featured in ceremonial or ritual feasts. Likewise, manatee bones could have served only specific ritual and secular purposes, being used for crafting paraphernalia and ornamentation (Khalsa, 2014).



The ideological value of manatees is hard to estimate, though its value in uniqueness alone could cause manatee to have high ideological status. Since manatees are missing from surviving Taíno legends, we do not know their exact role in Taíno ideology. But we do know from ethnohistorical sources that in every healing ceremony, the use of vomiting spatulas for purging was a part of the process. Manatee ribs was nearly without exception the material used for ritual vomit spatulas, but this may be due to functionality rather than ideological preference. One of the most important sources for Taíno beliefs are origin myths recorded by missionaries shortly after European contact. Taíno attached much value to water as a generative force, and that force is directly linked to Taíno mythology of death, life, and bones: Yayael is killed by his father, who puts his bones in a gourd. The mother takes down the gourd, and in it she discovers fish. Seeing what these bones had been turned into, they decide to eat the fish. Later, Yayael's bones are accidentally spilled out of the gourd and become the entire ocean, full of sustenance and life (Vazquez, 1993; Waldron, 2018).

The widespread distribution and resemblance of Maya and different Taíno material culture traditions indicate a shared cosmological understanding among the indigenous peoples of the wider Caribbean region. This shared worldview likely encompassed political organization and social dynamics, facilitating regular cross-regional interactions (Mol, 2011a). Caribbean and Mesoamerican beliefs specifically share a common watery underworld, suggesting that animals associated with water held special supernatural meaning, bridging the natural and spiritual realms. The manatee, with its unique aquatic characteristics, may have occupied a liminal role in Taíno ideology. The use of bone in ritual tools could have practical or ideological implications. Further future zoomorphic analysis may offer additional answers: A continued occurrence of manatee bones in ritual objects could cement their significance in Taíno ideology; human bone identification could strengthen arguments of ancestor veneration; and non-indigenous mammal bones could support theories of long-distance trade networks and the ritual importance of exotic animals.

### 5.3.3 Europe

Following the transoceanic voyages of the late fifteenth century, the Atlantic Ocean became a center of exchange, ushering in the post-Columbian era, and fostering new global perspectives. All the way up to the early nineteenth century, societal transformations occurred,

leading to the development of multiple corporations, and the establishment of the Atlantic as a nexus of interaction. This New World accelerated an exchange of plants, people, animals, and commodities, reshaping life along the Caribbean coasts and influenced cultures bordering the ocean. Human attitudes toward animals and environments changed, driven by cultural attitudes and their economic worth (Goedeke, 2004). Large marine animals held monetary, cultural, and spiritual significance, becoming part of historical narratives. While society initially viewed nature for its utility, modern shifts recognize humans as part of nature (Vining et al., 2008). This biocentric outlook acknowledges the subjective nature of environmental understanding, shaped by individual perspectives. Despite their mythical allure, large marine animals faced centuries of exploitation as valued resources. The history of human interaction with these animals reflects an interplay between economic, cultural, and environmental factors, that has shaped perceptions and practices over time (Brito & Vieira, 2016).

In 1493, Christopher Columbus and his crew became the first known Europeans to encounter manatees in the Caribbean, initially mistaking them for mermaids. Subsequently, Europeans gained a closer acquaintance with manatees (O'Shea, 1994, p. 68). Following the Spanish conquest, Spanish missionaries and scholars documented detailed chronicles about the New World, covering aspects including the indigenous population and animals encountered. The manatee, with its fish-cow-like properties, was a novel discovery to Spanish observers (Muñoz et al., 2014, p. 31). Reports from European contact and travel in the Caribbean spanning the 16<sup>th</sup> to 20<sup>th</sup> centuries prompted a reassessment of global geography and culture, emphasizing the economic importance of new resources, including aquatic animals. These accounts provided valuable insights into manatee exploitation (McKillop, 1985, pp. 338-339; Vieira & Brito, 2017, p. 526). Europeans captured manatees out of fear, fascination, utilitarian interests, and the pursuit of valuable resources such as fat and meat. They held mythical and practical weight. Historical evidence show that European settlers adopted exploitation patterns established by locals, that has continued to be used in the hunting of manatees up until today (Vieira & Brito, 2017, p. 526).

### *The Mermaid*

In 1493, while sailing off the coast of Hispaniola, Christopher Columbus reported seeing three mermaids (see IV1) (Brito, 2013: 2019; Vázquez,

2015). As soon as reports reached Europe, it became clear that the exotic marine animal that was being described and illustrated was in fact the manatee (Brito, 2013, p. 16). Manatees were only formally classified as *Trichechus manatus* by Linnaeus in 1758, and the Order *Sirenia* was named in 1811 by Illiger (Brito, 2013, p. 19). Past observations of manatees within unexplored geographical boundaries may have created a direct association between the animal and their mythological equivalent. There was an abundance of copied information in publications from the 16<sup>th</sup> to 18<sup>th</sup> centuries that usually repeated classical knowledge, pointing to a lack of updated biological knowledge in Europe (see IV17 and IV19). Additionally, any new, revised knowledge remained largely isolated from the broader European scientific community. Despite some exceptions, accounts of natural phenomena and exotic species from the “East and West Indies” were often judged to be irrelevant in advancing European natural history. Details of natural novelties and exoticism were typically confined to manuscripts held by bureaucrats, who were advised against revealing state secrets or commercial interests, thereby keeping manatees obscure in the annals of natural history (Brito, 2013, p. 19; Vieira & Brito, 2017, pp. 519-520).

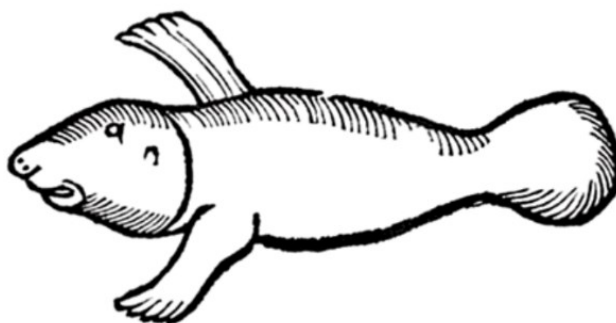


Figure 37. The earliest illustration of a sirenian to be published. The West Indian manatee, from the 1535 edition of *La Historia General delas Indias* by Gonzalo Fernández de Oviedo y Valdés. Source: Vieira and Brito, 2017, p. 519; *sirenianbiblio*.

Still, during the 16<sup>th</sup> and 17<sup>th</sup> centuries, knowledge from the New World and Atlantic explorations played a crucial role in re-evaluating myths of mermaids and human marine beings, enriching natural history archives. However, mermaids did not vanish from memories. Folklore from around the world often contain references to mermaids or mermaid-like creatures (Brito, 2023, p. 84; 2013, pp. 19-20). Manatees have mammary glands similar to human breasts. This resemblance

contributed to the belief that sirenians are the inspiration behind mermaid myths, folklore, and magic traditions (Marsh, 2022). As natural sciences were not fully established during this time, legends and myths predominated in stories about mermaids and manatees (Brito, 2013, pp. 19-20) (see IV3, IV5, IV6, IV8, IV17, IV26, IV32, IV38 and IV51).

One could imagine that when the Europeans first were confronted with humans and animals who lived and looked so differently from themselves, that they could not help but be destabilized by the event, and vice versa. The Taíno people's relations to the natural world was so different that there could have been no way for the Spaniards to be sure where the Taíno ended, and myth began (Le Guin, 2021, pp. 251-252). Most Spaniards of the period could not swim (Dawson, 2010), while we know from accounts on pearl diving that the Taíno were accomplished swimmers (Warsh, 2014). The mere sight of a human body in and moving as one with water could have seemed fantastical to sailors and soldiers and may have added on to the myth (Le Guin, 2021, pp. 251-252).



Figure 38. "Iemanjá". By Nelson Boeira Fædrich (1968).

### A Global Phenomenon

In most of the world today, manatees are famed for fostering a thriving tourism industry. However, in parts of Africa and South America, manatees are still perceived as feared or revered water spirits, connected to folklore and spiritual beliefs held by different indigenous communities (Marsh, 2022).

The allure of half-human, half-aquatic entities has fascinated human imagination for millennia, inspiring myth, art, and religion across continents. Women associated with healing that emerges from water are a common theme in Amerindian legends. Mermaids, Mami Wata, and Yemaya are globally recognized figures, that cross cultural boundaries with their influence (see figure 38). While their origins vary, they share many similarities in their representations. Mermaids, steeped in Western folklore, symbolize beauty, seduction and vanity with the mirror and comb they hold. Mami Wata originates from indigenous African beliefs, often depicted as a charismatic being with a

dark-haired, dark-skinned upper body and a fish tail, a golden comb, and a mirror. Yemaya, like Mami Wata, is portrayed as a mermaid adorned with clam shells. Despite slight differences in interpretation, these entities have left enduring marks on global cultures, art, and literature (Brito, 2023; Fernandez Olmos et al., 2014; Guzman, 2018) (see IV8, IV10, IV24, IV29 and IV41).

An example of this is La Sirène, a mermaid from Haitian Vodou. She is considered a lwa — a deity or spirit — widely revered but also feared for her ability to lure and harm those who disrespect her. The Yoruba people of present-day Nigeria influenced the cultural heritage of the Americas through the Atlantic Slave Trade, with their religious practices forming the basis of Haitian Vodou. Water plays an important role in Haitian life and various religious beliefs are centered around it. Agwé, the Lord of the Water, is accompanied by la Sirène, depicted as a beautiful woman with a fish tail, holding a mirror symbolizing the connection between the mundane and mystical world. She also possesses a golden trumpet, believed to bring wealth to those fortunate enough to discover it (Fernandez Olmos et al., 2014; Finch & Gaddis, 2023). Sailors often seek her favor for good luck at sea, and she is often likened to mermaid legends, Yemaya, and perhaps most often Mami Wata.

While I acknowledge the commonalities between Yemaya, Mami Wata, and La Sirène, I want to emphasize that I am in no way an expert in these spiritual traditions. My intention is to highlight historical parallels, not to merge or appropriate these beliefs. As with every kind of tradition, it is important to recognize their depth and complexity, since they all involve different rules, rituals, prayers, gestures, language, and knowledge, much of which is not accessible through written sources.

### *The Many Uses for the Manatee*

With the arrival of European explorers and settlers, coastal and inland ecosystems, already influenced by indigenous resource extraction, faced major elements of disruption. Exploitative practices intensified, causing irreparable environmental damage. Throughout colonial America, manatees were depicted in natural histories and missionary accounts, reflecting a role as a source of food and cultural symbol. Their versatile uses elevated their value to indigenous and colonial societies (Brito, 2019).

Europeans praised manatee meat and by-products for their perceived health benefits, using them in cuisine for fine dining and as consumer goods (Harris, 2020, p. 801). While not achieving delicacy status, Europeans valued manatee for its flavorful meat and high fat content, commonly preserved by salting and sun-drying in strips. This kind of product was in demand for feeding slaves, and slave owners also ate it. Manatee meat looked like veal but tasted like pork with a fatty texture. The French considered it a substitute for butter, and used it in soups, fricassees, and pastries. It was also highly valued as a cure for scurvy. Additionally, manatee meat had a multitude of medicinal uses, such as rubbing on sore joints for back pain and arthritis, relieving constipation and mixing with rum as an asthma remedy. It was even believed to cure impotence through consuming its male genitalia. Burnt manatee bone ashes were applied to insect bites, lung ailments, ulcers, and provided relief for women during menstruation (Harris, 2020, pp. 793: 802-803; McKillop, 1985, pp. 338-339).

Manatee products were mostly associated with utilitarian goods. For instance, manatee oil was used for lanterns, while pitch derived from manatees was utilized for caulking boats. Manatee hides were employed in making durable wrappings, mats, and shields capable of withstanding arrows. The tough hide of manatees was also taken up by the British, notably for crafting horsewhips, straps for fastening oars to boats, walking stick and boot soles, and even for machine belts in Europe and America during the 1900s. Currently, manatee skin is still sometimes applied in the creation of reins, muzzles, and hammocks. Additionally, fat extracted from manatees is used in candle-making and cooking (Harris, 2020, p. 805; McKillop, 1985, pp. 338-339; Montoya-Ospina et al., 2001, p. 127; Smith, 1981). Manatee meat was known to be prized as a substitute for fish. Father Joseph de Acosta explains in his 1590 work, "*Natural and Moral History of the Indies*", the significance of manatee as a food source (see IV6). Less pious Catholics apparently heavily exploited manatees on fast days when other meats were prohibited, contributing to their depletion (McKillop, 1985, pp. 338-339; Muraoka, 2019).

One unique anecdote involves the transportation of a manatee being shipped by C. Melhado around 1910, using a shipping turtle tank from Belize to the London Zoo (Smith, 1981) (see IV40).

## Historical Descriptions

Reports from the British in the Caribbean affirm that manatees were abundant and served as a dependable meat source. In the late 1600s, William Dampier, an English buccaneer, sustained his crews with boatloads of manatee meat from Panama, provided by Miskito Indians (O’Shea, 1994, p. 68). He detailed encounters with the Miskito and the equipment and techniques they used when hunting (see IV39, IV44 and IV49). Other historical accounts support the suggestion of a high capture rate of manatees during European expansion (McKillop, 1985, pp. 338-339) (see IV2, IV9, IV12 and IV46).



*Figure 39. Manatee skull photogrammetry (II80) from the University of Bergen (BM 329). Photogrammetry: Léanna F. St-Victor & Krister M. Sørsæther*

Certain parts of manatees, such as “brain stones”, (see IV3, IV20, IV30, IV34 and IV48) were highly valued for their alleged medicinal or magical properties. Such beliefs were influenced by historical associations of the sea with myths and superstitions, where marine creatures were considered supernatural beings to be feared (see IV2, IV5, IV17, IV24, IV31-IV33 and IV48). Despite misconceptions, sirenian meat was esteemed for its flavor and resemblance to the meat of domestic herbivores (Marsh, 2022) (see IV3, IV6, IV7, IV9, IV12, IV30, IV33, IV36, IV42 and IV48). Occasionally, tourists even today purchase manatee meat, tempted by the claimed flavors that manatees are rumored to possess – a widespread story in the Caribbean (Montoya-Ospina et al., 2001, p. 127).

Historical accounts contribute tales like this and show consistency in their descriptions of manatees. Through a process of information sharing and dissemination, multiple descriptions of these animals appear to have emerged roughly simultaneously. Several authors reference indigenous names for the animal, commonly using terms like manatí or peixe-boy (ox-fish) (see IV7, IV12, IV14, IV17, IV26 and IV48). They sometimes note specific features like the presence or absence of nails (see IV26, IV37 and IV48), the medicinal properties of certain body parts (see IV14-IV16, IV33 and IV48), and various hunting techniques (see IV19, IV25 and IV44). Many writers also describe the animal as a “special kind of fish” due to its nursing behavior and ability to breathe through nostrils out of the water (Brito, 2019; Marsh, 2022; Vieira & Brito, 2017, pp. 517-518).

## A Place Called Manatí

*Geographic locations with historical or pre-Columbian names referencing extinct fauna offer insights into past species presence. On Bonaire, the Lac Bay mangrove and seagrass lagoon may have served as manatee habitat, evidenced by an area known as "Manparia Kutu", derived from a siren legend. Similarly, maps of the Caribbean Islands feature Manatí bays, rivers, lagoons and more. See appendix VII: figure 45 (Bertram & Bertram, 1973; 1964; Debrot et al., 2006).*

But while historical records suggest widespread use of manatees, archaeological evidence only partially supports this (Roca & Iglesias, 2015, p. 93). Regardless of this, by the late 1800s concerns over depleting numbers led to new markets for manatees, with museums wanting skins and bones, and live specimens for display (Marsh, 2022; Vieira & Brito, 2017, p. 520).

### Other Indigenous Communities

Before Europeans began exploiting manatees, indigenous people were already capturing and using them for various purposes. Different parts of the animal were utilized for consumption, medicine, utilitarian purposes, and in myths (Vieira & Brito, 2017, p. 521). Ethnographical accounts describe the diverse uses of the animal by indigenous groups. For instance, the Juri, Pase, Guayupe, and Sae people used manatee hides for defense, crafting round shields from a single piece of manatee hide (Carvajal, 2014, p. 123). In ceremonies, the Tucano and Arawak people would belt young boys with a whip made of manatee hide to impart strength (Carvajal, 2014, pp. 125-126). Similarly, the Mura, Piraha, Canamar, Curina, and Yurimagua tribes celebrated rituals resembling those of the Tucano and Arawakan tribes, using manatee hides for flagellation with a long leather thong (Carvajal, 2014, p. 123). Additionally, the shoulder-blade of the manatee was sometimes repurposed as a cooking spatula (Vieira & Brito, 2017, p. 521).

Myths surrounding manatees are prevalent among the indigenous tribes of the Caribbean, Central-and South America. For example, the Rama of Caribbean Nicaragua and the Warao of Caribbean Venezuela have folklore centered on manatees. The Rama has a structured system for butchering and distributing manatee meat, which is then shared among the community rather than consumed by individual households. Additionally, the Rama believe that the bones of



the manatee must be returned to the sea where it was captured to ensure future successful hunts (McKillop, 1985, pp. 340-345). The Warauno, Mura and Conibo associate manatees with the Southern Cross constellation and refer to the Milky Way constellation as "the road of the manatee" which they believe "swims" in the river or Milky Way. In other indigenous cultures, such as the Uitoto and Ticuna, manatees are referred to as river tapirs. Their legend for the origin of the manatee and tapir revolves around two sisters who, after a quarrel, were cursed to become a tapir and manatee, respectively. Similar beliefs are held by other tribes in Venezuela, such as the Piaroas of the Amazonas Territory, who believe that consuming manatee meat will result in death, as they consider manatees and river dolphins to be bewitched humans. According to their belief, people who consume food from an underwater city at the bottom of the Orinoco are transformed into manatees or river dolphins, known as *manaris* (O'Shea et al., 1988, pp. 293-294; Carvajal, 2014, pp. 125-126). Numerous folklore stories across the Caribbean region highlight the similarities between manatees and women. Some suggests that where manatees exist, lagoons never dry up (O'Shea, 1994, p. 68). Similarly, the Warauno believe that manatees possess a special force released during a lunar eclipse, which can be obtained through a ritualized game of strength played during the eclipse. The insignia of the shaman for the Warauno may have originated from the manatee sternum (O'Shea et. al., 1988, pp. 293-294).

The Spanish noted various medicinal ways the indigenous people of the Caribbean used manatees, attributing healing properties to different parts of the animal: Rings made of manatee bones were believed to cure hemorrhoids, while its skull was thought to cure blood illnesses or gall bladder issues. Other perceived medical benefits included treating conditions such as arthrosis, luxation, wounds, dental problems, and syphilis (Carvajal, 2014, pp. 125-126). In different regions, manatee bones were believed to possess medicinal properties beyond Spanish accounts. In the Sinu and San Jorge rivers, they were seen as an antidote for snake bites. In the Atrato River, manatee bones were used as amulets to attract rain and fish, serving as magical charms against evil and disease. Moreover, their ear bones were believed to enhance hearing, reflecting the reverence for the manatee's sensory abilities. Among the Warauno, it was believed that manatee ear bones could cure illnesses caused by people with a magical "evil eye". Specific rituals were performed, such as wearing the ear bones of a male

manatee for girls and those of females for boys. Manatee oil was also recognized for its medicinal properties and used for relieving backaches, and its skin could be applied as a bandage for arthritis, cuts, and wounds. Additionally, the ash from cooked manatee skin was believed to be effective against diarrhea, and ground manatee ribs could be boiled and consumed to relieve menstrual discomfort (Harris, 2020, p. 793; O'Shea, 1994, p. 68; O'Shea et al., 1988, pp. 293-294; McKillop, 1985, pp. 340-345; Montoya-Ospina et al., 2001, p. 127).

### Matu the Manatee

The tale of Matu serves as an example of the intricate human-nature relationship (see IV18, IV28 and IV47), reflecting both admiration and exploitation. Depictions of manatees in indigenous narratives and European illustrations unveil vastly different cultural perspectives and the repercussions of colonial influence (Brito, 2023: 2019, pp. 11-13).

In the 2015 article "*The chicken or the iegue: human-animal relationships and the Columbian exchange*", Marcy Norton explains the practice of adopting and taming, termed "familiarization," of non-human animals that was widespread among Caribbean and lowland South American indigenous groups. Certain individuals of non-human species were hunted and consumed, while others of the same species were cherished as "iegue," signifying a tamed animal or an adopted human child in the Carib language. This dynamic governed many interactions with non-humans before European influence and served as a fundamental structure in social organization. While similar to the concept of a "pet," "iegue" bridges the gap between humans and other animals. Understanding the taming process challenges conventional narratives about animal "domestication" prevalent in most cultural records throughout history. Recent studies have begun to address this gap, emphasizing the agency of Native Americans and non-human actors, challenging accounts of biological determinism. Recovering Amerindian concepts of animal agency and practices concerning "iegue" can offer insight regarding trans-species notions of subjectivity, without the interference of European ideas from colonial settings (Norton, 2015).



Figure 40. *Matu (or Matto)*. From Philoponus' work (1621), of Gómara's story about a manatee tamed by cacique Caramatexi, who carried members of the tribe across waters, while Europeans watch the scene. Source: Brito, 2019, p. 12. © JCB Archive of Early American Images

In the early sixteenth century, a Taíno chief caught a young manatee and named it *Matu* (or *Matto*, meaning "generous", "grand" or "noble"), sparing it from slaughter despite its prized meat (see IV47; Brito, 2023). Once tamed, consuming these animals became deeply taboo, reflecting a strict prohibition against killing an animal one had personally raised. Crucial distinctions exist between pets and "iegue," with "iegue" encompassing both human adoptees and familiarized non-humans. Differences also exist in the animals eligible for consumption, with a taboo against eating tamed animals, regardless of species (Norton, 2015; Vázquez, 2015) (see figure 40).

### *Trade*

Despite enduring millennia of hunting by indigenous peoples, manatees remained abundant in the early colonial period, suggesting the presence of cultural mechanisms to prevent over-exploitation (Smith, 1981). And while being hunted by buccaneers and settlers, the commercial exploitation of manatees never reached the scale of, say, the turtle industry. However, this does not mean that the trade of manatees was not extensive.

In 1659, Father António Vieira reported to Portuguese King Afonso VI that over 20 Dutch ships annually departed Brazil loaded with unspecified manatee products (see V1). A letter dated to 1655 from director-general Stuyvesant of New Netherland to vice-director Beck of Curaçao, provides a second Dutch Leeward manatee record. The letter

reveals that manatee meat shipping activities prompted charges for salt, pointing out the strategic importance of preserving the North Sea herring catch in the Netherlands (see IV13). This suggests manatees were abundant enough in the surrounding seas to impact the salt supply (Debrot et al., 2020).

By the 18<sup>th</sup> century, trade of local animals prompted the establishment of a Portuguese Royal Fishery in the Amazon basin, processing turtle eggs, fish, and manatees into oil and meat for garrisons and locals (Smith, 1981; Vieira & Brito, 2017, p. 523). Manatee hides were used for making whips, while *mixira*, a preserved manatee meat, was fried in its own fat and stored in clay pots. Sausages were made from manatee stomach linings and exported to Portugal. Later, in the 20<sup>th</sup> century, manatee hides were exported to southern Brazil and Portugal for manufacturing products such as machine belts, water hoses, and loops used in cacao collection (Smith, 1981; Vieira & Brito, 2017, p. 523).

The unregulated capture of animals raised early concerns about managing a finite and valuable resource. In the late 18<sup>th</sup> century Alexandre Rodrigues Ferreira, commissioned by the Portuguese state for a philosophical journey to Brazil, arose as a pioneer in nature conservation and resource management. He brought up the detrimental impact highly predatory fishing methods could have on regional economies, citing the indiscriminate capture of manatees and other aquatic species (Vieira & Brito, 2017, p. 523). However, his primary concern was ensuring the future continuity of these economic activities rather than advocating for a ban on their capture. Alas, Ferreira's perspective may not have prioritized environmental protection but rather the protection of the economic interest of the state. This approach is commonly seen throughout modern history as a management tool for species with high economic values (Brito & Vieira, 2016, pp. 182-183).

### Evolution of Records

The commercial exploitation of manatees was consistent from the 17<sup>th</sup> and 18<sup>th</sup> centuries, primarily in the Caribbean region, Guianas, Suriname, and Brazil, with Amsterdam-chartered ships transporting manatee meat to plantation filled islands, but ceased by the late 20<sup>th</sup> century due to a worrying decline in manatee populations and new laws banning manatee hunting (Bertram & Bertram, 1964; Harris, 2020, p. 789; O'Shea, 1994, p. 68). The intense hunting of manatees both for

local consumption and as a supply of oil and meat for ships engaged in the sugar trade led to a rather rapid reduction in their numbers, consequently depriving indigenous populations of resources, and indirectly impacting the region's environment by disrupting the riverine ecosystem. The motivation for contemporary hunting primarily arises from small-scale commercialization and longstanding cultural traditions of manatee meat consumption (Crema et al., 2020, p. 535).

It could seem that it was not pre-Colombian exploitation but rather modern hunting practices, along with habitat disruption, that is the cause of the threatened existence of manatees. Historical evidence from the 15<sup>th</sup> and 16<sup>th</sup> centuries indicate that manatees did become a big part of the local economy, leading to a decline in their population (Roca & Iglesias, 2015, pp. 91-92). However, the impact of heavy predation on manatee populations during their period of commercial exploitation remains challenging to assess due to fragmented records and limited data availability. These records provide only a partial view of the manatee catch due to factors like unrecorded catches and the absence or loss of documentation for hunts intended for local consumption (Domning, 1982, p. 102) (see figure 16 and appendix V).

Evidence show trade in manatee meat with European colonies during the mid-17<sup>th</sup> century, and the 18<sup>th</sup> century witnessed substantial exploitation, raising concerns about population stability (Domning, 1982, pp. 102-103). The late-18<sup>th</sup> century marked a 60-year gap in records, with limited data until the mid-19<sup>th</sup> century. Mixira emerged as the primary manatee product in Amazonian exports prior to the 1930s, with fluctuations in production influenced by factors like market dynamics and enforcement of regulations (Domning, 1982, pp. 104-105).

The accuracy of recorded animal numbers is difficult to discern. If we considering an average of 76 kg of mixira per animal, it would seem unlikely that recorded quantities required over 1000 animals. The record from 1860 may indicate 3000 or more animals, representing the high end of the scale. But the reported figure of over 500,000 kg of meat for 1871-72 is likely erroneous (see figure 16 and appendix V). Factoring in local consumption, it is reasonable to estimate a couple thousand manatees caught annually during the 19<sup>th</sup> and early 20<sup>th</sup> centuries (Domning, 1982, p. 105). The commercial significance of dried or salted manatee meat was overshadowed by mixira until the 1950s, while manatee hides were exploited for heavy-duty leather from 1935 to 1954. The decline in hide exports from Amazonas in the 1950's

was likely due to the advent of synthetic materials, rather than a shortage of supply (Domning, 1982, pp. 116-117). Manatee exploitation persisted in significant numbers until Brazil banned manatee hunting in 1973, leading to a decline in trade numbers (Domning, 1982, pp. 117: 122).

## 5.4 Survey Discussion and Analysis

### 5.4.1 Discussion I: Revisiting the Conservation Dilemma and Shifting Baselines

In chapter two, I introduced the concept of a “shifting baseline syndrome” (SBS), often used to help in understanding our limited grasp of the past, especially in marine environments. Baselines serve as reference points for assessing ecological change, but perceptions of these baselines evolve over time, leading to diminished beliefs in historical abundance or species size. Determining an appropriate baseline for measurement involves subjective judgments based on our understanding of historical ecosystem conditions. Shifts in perceptions contribute to society's acceptance of biodiversity loss, highlighting the need for educational efforts to up conservation goals and expectations (Máñez & Poulsen, 2016; Sáenz-Arroyo et al., 2005, p. 1957).

The SBS, however, is also somewhat problematic, given this constantly changing nature of environments. Human interaction with marine ecosystems today constantly faces threats that jeopardize biodiversity, economic stability, and food security. Preserving the health of the ocean is of utmost importance, but interdisciplinary efforts to address these challenges are actually hindered by SBS. This is exactly because SBS involves this gradual loss of environmental knowledge across generations, which can lead to misunderstandings about the state of ecosystems and their capacities. To address this, there has been a recent proposal that suggest integrating SBS into a broader framework of thresholds in marine environments, encompassing cultural, ecological, and evolutionary shifts (Atmore et al., 2021).

To continue the thread on environments that go through changes over time, I would like to go back to another topic I briefly touched upon in chapter two: The intricate relationship between development and underdevelopment in regions that are shaped by dynamics involving the human and nonhuman, resource distribution, and global trade (Bunker, 2019). This is something that extends to material production, resource extraction, and global exchange systems, and it

often results in extreme peripheries noticeable by its risk of self-impoverishment (Bunker, 2019). Addressing the disruptive impacts of extraction on social and natural environments is essential, especially in contexts like Haiti, a country that today faces severe environmental degradation and food insecurity because of historical over-exploitation (Steckley & Shamsie, 2015) (see figure 41).

Haiti stands as a good point of reference, as it ranks as the most environmentally degraded and food-insecure nation in the Western Hemisphere. Less than 1% of its landscape is covered by dense forest, and it heavily relies on food imports, with 60% of total consumption being imported (Steckley & Shamsie, 2015). These issues trace their roots back to colonial conquest and the globalization of Western capitalism, particularly through the plantation system and European demands for consumer goods, which imposed tropical commodity production and extraction, resulting in massive deforestation and environmental disturbance (Steckley & Shamsie, 2015). Addressing the connection between environmental degradation, food insecurity, and historical legacies of colonialism and capitalism is necessary when discussing sustainable development in Haiti and similar contexts worldwide.

Through my survey, one of my goals was to help gather traditional knowledge so it may be integrated into conservation efforts and provide insight into the state of the ecosystem. Passed down through generations, traditional knowledge highlights the interconnectedness between humans and their environment, offering another perspective on ecosystem dynamics often overlooked by conventional scientific methods. This knowledge can be used when guiding conservation initiatives, protecting habitats, and preserving species (Crema et al., 2020, p. 529).

In the context of countries like Haiti, the historical backdrop presents challenges to preserving traditional knowledge. The Haitian government established in 1804 adopted Eurocentric principles and fostered a racial consciousness that marginalized African heritage (Casimir, 2020). This mindset aimed to erase local culture in favor of a social order advocated by the Christian West. Despite this, indigenous traditions persist alongside African heritage (Casimir, 2020; Hofman et al., 2018). However, it is important to acknowledge that a social stigma

related to cultural heritage still exist today – a reality I was mindful of when I distributed my survey.

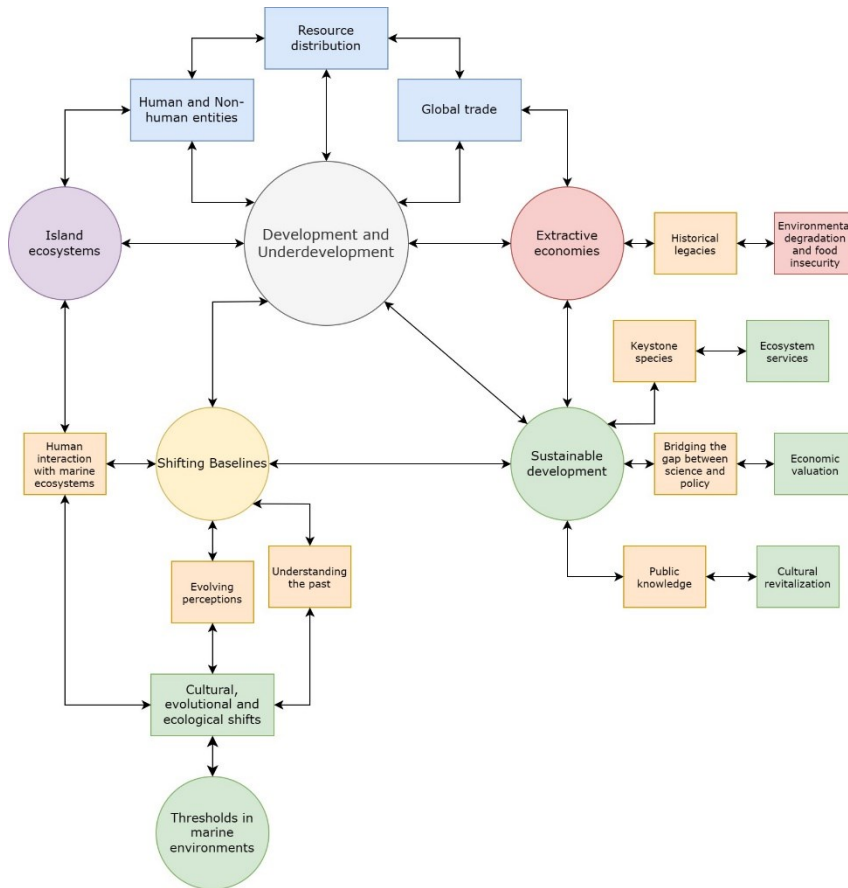


Figure 41. Concept map illustrating the social, economic, and ecological links involved in global development and underdevelopment, by Léanna F. St-Victor.

Island ecosystems are influenced by both human and non-human entities. The dynamics of human and nonhuman entities often determine how resources are distributed: e.g. social organization shapes and is shaped by ecosystems and plays a crucial role in determining access to and transformation of natural resources. The distribution of resources is closely tied to global trade, seen as global exchange systems dictate trade terms, impacting regions differently based on their social structures and political organization – which can lead to disparities in resource distribution. Global trade can lead to the development of extractive economies, especially in regions rich in natural resources. Extractive economies have historically faced challenges in achieving sustainable development and have led to escalating unit costs with expanding extraction scales, resulting in self-improvement. Addressing the disruptive impacts of extraction on social and human environments is essential for sustainable development. If handled correctly, sustainable development practices will provide vital ecosystem services, lead to financial gain and cultural revitalization. However, sustainable development is influenced by shifting baselines, which could lead to a gradual acceptance of environmental degradation and biodiversity. Shifting baselines can thus impact human interaction with marine ecosystems. Implementing the concept of thresholds in marine environments could help reduce the risk of this, as human activity is one of the factors that have the most impact on island ecosystems.



## 5.4.2 Discussion II: The Role of Manatees as Keystone Species in Marine Ecosystems

In my survey, I delve into the significance of manatees as keystone species in marine ecosystems and assess participants' awareness of their ecological importance. Large herbivores, including manatees, serve as crucial ecosystem engineers, that shapes habitat structures. Grazing activities by manatees' influence plant communities, triggering shifts in the composition of species and enhances their diversity (Christianen et al., 2019). Additionally, their grazing behavior can impact the expansion of invasive plant species and plays a role in water quality preservation in freshwater ecosystems, supporting activities such as navigation, flood control, mosquito control, and fish habitat (Debrot et al., 2020).

The ecological roles of manatees extend to mangrove and seagrass ecosystems, where they contribute to habitat stability, nutrient recycling, and seed dispersal. Mangrove forests are essential for several ecological functions, serving as nurseries for marine life, stabilizing shores, and filtering pollutants. Additionally, they support fisheries, a primary income source for coastal communities (Jean-Baptiste & Jensen, 2006). Similarly, seagrass meadows provide vital habitats for commercial and recreational species, stabilize the seafloor, and contribute significantly to carbon sequestration (35 times faster than tropical rainforests) and pollution filtration (Norman et al., 2021). Recent studies have shown that they can also work as a replacement for plastic (Kuqo, 2023). Seagrass beds and mangroves can together



*Figure 42. Manatee swimming with school of fish. From Pixabay.*

provide vital ecosystem services. Moreover, economic assessments of seagrass and mangroves highlight their potential financial value, which is only increasing as we understand their role in reducing greenhouse gases and as alternatives for other environmentally harmful products (Baker et al., 2015).

Understanding the link between improving the state of keystone species like manatees and raising the knowledge level of the general masses is crucial for their conservation and ecosystem management. Furthermore, recognizing the contributions of species like manatees to ecosystem services such as coastal protection, tourism, and carbon sequestration can increase their economic value (Waite et al., 2015). In the wider Caribbean region, economic valuation is gaining traction to inform choices regarding conservation programs and management. However, despite growing interest in economic valuation, coastal ecosystems and species continue to face degradation due to human activities. While interest in valuation is on the rise, its impact on decision-making remains uncertain, with a noted gap between science and policy, where valuation results are underutilized. Bridging this gap will require improved communication between the general populace, scientists, decision-makers, and stakeholders through capacity building and engagement efforts (Waite et al., 2015) (see figure 41).

### 5.4.3 A Comparative Analysis of Contemporary Perceptions and Management

In a 2016 survey conducted by Haydée Tejo Domínguez, which stands out as one of the few recent investigations on manatees in Hispaniola, the significance of manatees among fishers was evaluated. Out of 679 respondents, an overwhelming 99% recognized the importance of manatees. In contrast, my survey comprised only 83 respondents, indicating a notable difference in both the number of participants and geographical coverage. However, despite this difference, intriguing parallels arose when comparing the findings of the two surveys, particularly in the consistent acknowledgment of the significance of manatees by a similarly high percentage of participants in both surveys.

In the 2016 survey, participants from Haiti associated manatees with abundant fish (45%), valued for consumption and sale (26%). Regarding beliefs, customs, or stories, only 41% of all respondents provided affirmative responses. In Haiti, prevalent beliefs included manatees causing damage to fishing gear (64%), while in the Dominican Republic, it was believed that manatee meat had unique

flavors (71%). Both countries shared the belief that areas with manatees were safe from dangerous fish like sharks. Primary reported uses of manatees were for consumption and sale, with higher percentages in Haiti (91% and 97%, respectively) compared to the Dominican Republic (76% and 41%). Regarding responses to intentional and accidental capture, Haitian fishers expressed a higher likelihood of consuming or selling captured manatees, while Dominican fishers were more inclined to release them, especially if caught accidentally. Dominican fishers were aware of the illegality of intentional killing, but there were reservations about reporting accidental deaths due to fear of legal repercussions. In Haiti, the lack of national laws protecting the species and conservation efforts highlighted the vulnerable state of manatees (Domínguez Tejo, 2016; Self-Sullivan & Mignucci-Giannoni, 2012). Beliefs associated with manatees have declined over time, possibly correlating with the decrease in manatee abundance (Domínguez Tejo, 2016).

Upon examining the demographic composition of the participants in my 2023/24 survey, a pattern emerged concerning occupational sectors, particularly within the fishing industry. It became evident that there existed a discernible correlation between the age of respondents and engagement in the fishing profession. There was a progressive increase in the representation of individuals involved in the fishing sector as age advanced, in contrast to other professions (see figure 43).

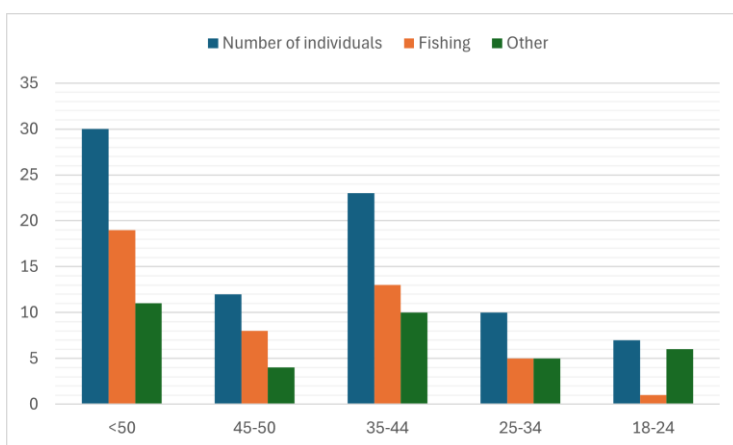


Figure 43. Correlation between age and profession.

Moreover, a fascinating observation arose in regard to perspectives concerning the different value the manatee holds across different age groups. Particularly noteworthy is the opinions within the

50+ and 35-44 age brackets, which exhibited both the highest participant count and a notable representation of individuals employed in the fishing sector. In these demographics, the manatee was predominantly deemed valuable due to its endangered status, but also due to its role as something to eat. Conversely, within the younger demographic, while recognition of the manatee's endangered status was prevalent, the perception of the manatee as a viable food source appeared to be less pronounced (see figure 44).

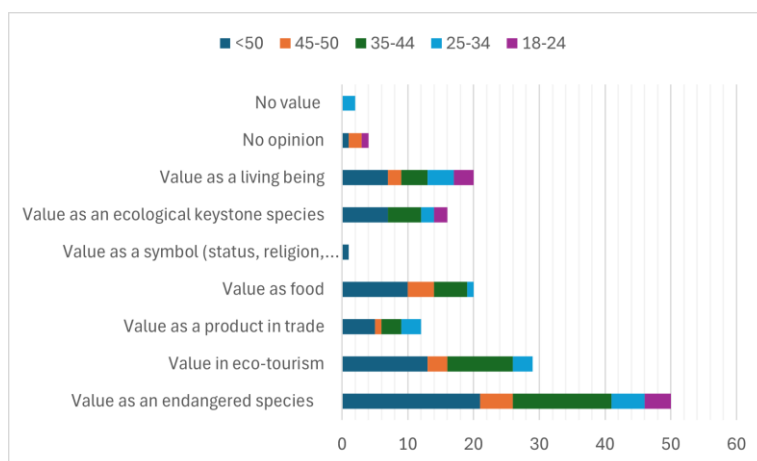


Figure 44. Correlation between opinions and age.

Another intriguing finding from my survey results was the unexpectedly high number of respondents who reported having witnessed manatees in the wild (65%) and in captivity (54%) (see appendix VI). In correspondence with one of my contacts, Jean Wiener (director of FoProBiM), he expressed skepticism about this part of the survey before it was launched, suggesting that responses to such questions might be scarce, especially in Haiti. My findings could suggest that manatee populations in Haiti may be higher than previously thought, or at least more accessible to local communities than anticipated. Further research should explore the distribution and abundance of manatees in Haiti, their habitat preferences and conservation status. Understanding the factors contributing to manatee sightings could provide valuable insight into their ecology and behavior in the region. Additionally, investigating the relationship between human activities and manatee populations, such as habitat degradation, boat traffic, and poaching, could inform conservation efforts aimed at protecting this vulnerable species in Haiti.

One finding in my survey contradicts the beliefs about manatees in Haiti revealed by the 2016 survey, as I received multiple comments regarding the taste of manatee meat, noted under the section inquiring about mythological stories about manatees in appendix VI. Several participants commented that they have been told that the taste of manatee meat is like a blend of pork and beef. This also contrasts with earlier interviews conducted in Haiti in 1982-1983 (from Rathbun et al., 1985 in Domínguez Tejo, 2016), which observed a decline in the belief that manatee meat had distinct flavors, aligning with the responses from the 2016 survey.

However, there were also similarities with the 2016 study, seen in the continued lack of institutional support or systems to address conservation issues despite widespread traditional and ecological knowledge of manatees among fishing villages in Haiti. All of which is pointing out the historical neglect of conservation efforts in the region.

## 5.5 Synthesis and Interpretation: Conclusion to the Chapter

### 5.5.1 The Common Scarcity of Archaeological Finds

While manatees were hunted, other animal groups may have been more readily accessible prey. Even in cases where manatees were captured, after being killed and processed, many of the heavy bones may have been left at the shore or killing site, with only the more manageable bones, fat, meat, and hides being transported back to settlements. Considering the rise in sea level, some sites may now be submerged or covered by mangrove forests. Perhaps the meat from the animal was only eaten by elites occasionally or used exclusively in ritualistic contexts (Deagan, 2004, pp. 615-616), or there could have been placed a taboo on the animal. And finally, even if some meat and bones were transported to settlements, it could have been incorporated into an exchange market, being sent to sites located inland or other islands (Muñoz et al., 2014, p. 50).

### *Interpreting the Points of Contention*

The sea seems to have played a multifaceted role in Maya and Taíno society, providing sustenance, ritual materials, and serving as a crucial economic resource through trade, shaping their cultural and economic landscape (Andersson, 2018).

It is interesting to place McKillop's findings (1984: 1985) regarding manatee exploitation in Maya territory alongside the evidence unearthed for the Taíno to see how the utilization of aquatic mammals among indigenous populations may vary. In the Maya areas, marine animals appear to have held some dietary importance at sites where substantial quantities of meat and fish could be reliably and regularly obtained. However, for Taíno populations, current available evidence suggests a different scenario for the manatee. Zooarchaeological investigations imply that manatees were not a big source of sustenance for these communities but were mostly used in specific ritualistic contexts (Roca & Iglesias, 2015, pp. 98-99).

Nevertheless, in archaeology, the absence of evidence for a particular behavior does not prove the absence of that behavior. It must be remembered that archaeological data is still limited in the Caribbean (Curet, 2010). Moreover, the scarcity of manatee bones in zooarchaeological collections can be attributed to several other factors.

One plausible explanation is the unique nature of manatee bone, seeing as they lack a bone marrow, providing the animal with a solid and heavy skeleton. Considering their size, weight, and strength, transporting manatee skeletons could have posed a challenge and some risks. However, it was also this distinctive feature which made manatee bones highly sought after for crafting artifacts, particularly due to their potential for sculpting intricate three-dimensional forms. Even when the outer surface of the bone has been completely carved away, leaving no distinguishing outer characteristics, the material remains identifiable due to its characteristic high density (Bertram & Bertram, 1973, p. 329; O'Shea, 1994, p. 69; O'Neil, 2002, pp. 96-97; Vázquez, 2015).

Another reason could be attributed to food taboos or elite reservation. Considerations of food systems extend beyond their mere nutritional and economic dimensions; also offering insight regarding broader social and cultural processes. While archaeologists have traditionally focused on nutritional and economic aspects of ancient food history, recent shifts have directed them towards the social and political significance of food. Ethnohistorical and archaeological evidence suggests that food played a role in maintaining political power by controlling access to resources through religious ideology and social hierarchies, symbolizing social status and power dynamics within a society. In egalitarian settings, food taboos often dictated differential access to specific foods, and could reflect underlying social inequalities. Certain foods, perceived as scarce, diverse, exotic, or symbolically

potent, like the manatee, could have been reserved for elite consumption (Curet & Pestle, 2010, pp. 421-423).

Finally, we also must consider how the pre-colonial Caribbean probably had a very dynamic cultural landscape with mobile communities and interconnected interaction networks, since it shows evidence of movement of goods (Hofman & Hoogland, 2011), like dried manatee meat or ritualistic paraphernalia made from manatee bone. Resource distribution likely drove communities to establish trade networks, fostering craft specialization. Communities could have engaged in specialized production for exchange, strengthening social ties with neighboring groups, like on Moho Cay (Hofman & Hoogland, 2011).

### 5.5.2 The Colonial Watershed and Consequent Effects

Before the Columbian Exchange, manatees appeared to have been procured and processed occasionally, if not rarely. Their presence is evidenced by specific usages in crafting practical, ritualistic or funerary objects, with some regions showing more frequent utilization, indicated by archaeological and faunal finds, as well as their inclusion in mythological stories and traditional knowledge. However, post-colonization hunting and utilization of manatees seemed to significantly increase, suggested by findings from trade records and historical accounts.

#### *Cultural Encounter: European Colonization and Indigenous Worldviews in the Caribbean*

During the colonial watershed, the encounter between Europeans and indigenous peoples in 1492 marked a rare moment in cultural exchange. Subsequent voyages explored the Greater Antilles, leading to the establishment of Spanish, French, and Portuguese settlements and initiating the exchange of material culture between previously unknown worlds (Keehnen, 2011). However, these interactions were built on misunderstandings and misinterpretations that arose from the differing worldviews of the colonizers and indigenous peoples.

Indigenous cultures in the Caribbean, Central, and South America emphasized holistic thinking, interconnectedness, and dialectical reasoning, contrasting with the analytical approaches and formal logic of Western cultures. The indigenous systems of classification, rooted in animistic beliefs, viewed objects and phenomena as capable of possessing meaning and acting agency, and while Western classification systems were taxonomic, dividing the world

into separate categories of physical matter – they were also dedicated Christians (Keehnen, 2011). This clash of opinions and beliefs may have created uncertainty among indigenous peoples on how to classify the Europeans within their existing cultural frameworks (Viveiros de Castro, 1998), leading to responses that, while logical from their perspective, appeared distinctly *other* to Europeans (Keehnen, 2011).

### *The Changing Value of the Manatee*

Based on evidence from historical mentions, archaeological findings, trade records, and traditional knowledge, it is apparent that human attitudes toward manatees have changed over time, influenced by factors including cultural and social perceptions, existing knowledge, and economic considerations. These perceptions, shaped by traditional and scientific understanding, led to categorizations, and further defined cultural relationships. At times the manatee has been economically valued, serving as a commodity for human consumption, as livestock and as a natural resource. It has also been seen as a companion animal, valued for affection or status purposes, and socially cherished. And when it is observed as wildlife, it holds cultural and spiritual significance:

Throughout history, manatees have been regarded as a product for human consumption, as evidenced by faunal finds from Maya settlements and colonial trade records spanning the 17<sup>th</sup> to 20<sup>th</sup> centuries. There have been cases where they have been esteemed companion animals, exemplified by cases like Matu. Manatees have held cultural and spiritual significance for both native and non-native peoples, representing wildlife that has inherent symbolic meaning. This is proved by the use of manatee bone in indigenous cultures like the Maya and Taíno for specific objects with ritualistic or ceremonial purposes, such as the transfer of abilities between human and animal and their aid in transitions between worlds. Additionally, mythological stories, such as those of water goddesses, La Sirène and mermaids, and historical accounts of perceived medical miracle cures, all hint to the cultural and spiritual significance attributed to manatees throughout history.

These changing attitudes toward manatees reflect broader societal values and knowledge acquisition processes. Factors such as aesthetics, cultural importance, economic value, and levels of knowledge influence public perceptions of animals. Typically, species that are aesthetically pleasing, perceived as similar to humans, and



non-threatening tend to be valued more by society. Endangered species like the manatee often receive greater public support for protection efforts, especially when their endangerment is attributed to direct human activities (Goedeke, 2004). Overall, the dynamic nature of human-animal relationships and the significance of cultural context in shaping attitudes towards wildlife conservation efforts are underscored by a correlation between social ethics, the acquisition of authenticated knowledge, and the public's willingness to protect animals (Goedeke, 2004).

### 5.5.3 Concluding Remarks

While manatee bones are found in archaeological sites across the Caribbean, their scarcity in midden deposits suggests selective butchering practices, food systems or taboos around hunting and consumption. A discrepancy also exists between bone counts and artifacts within my case studies. While Maya-related finds exhibit some balance, Taíno finds lean towards a greater representation of ceremonial tools made of manatee bone. During the colonial era, manatees were hunted for their meat, oil, bone, and hide, and today, they remain important for coastal communities, serving as a source of income through tourism and traditional practices. My survey results revealed a good understanding and knowledge of manatees among participants. This observation is notable, given the limited number of previous surveys conducted on the perception of manatees in Haiti.

The historical utilization of the manatee reflects diverse cross-cultural values, encompassing personal, spiritual, and commercial benefits. Further socio-economic studies could expand our understanding of their significance in an even broader context.



## Part VI: Final Conclusions

### 6.1 Recapitulation of Objectives

Throughout this study, my main objectives have been to explore the changing perceptions and historical exploitation of the Antillean manatee by Indigenous peoples, European colonists, and modern populations, by analyzing patterns through archaeological, historical, and contemporary data. The aim has been to formulate a better understanding of human-manatee interactions, their consequences, and the significance of manatees to cultures such as the Maya, Taíno, and to Europeans. By consolidating existing knowledge and conducting new research, the study can hopefully contribute to Caribbean archaeology and conservation, furthering our understanding of manatees' role in human history. Aligned with the 4-Oceans project, it advances interdisciplinary understanding and informs marine conservation efforts.

To restate my research question: How has socio-economic and cultural forces driven, limited, and allowed for the exploitation of manatees before and after the colonization of the Caribbean, and what has been the impact on the various societies and marine ecosystems therein? This inquiry has been examined through a series of sub-questions addressing the varying cultural and historical significance of manatees, factors shaping human motivations, shifts in consumption and utilization patterns, observed fluctuations in manatee abundance and distribution, and the integration of knowledge for conservation and cultural renewal.

Specific research objectives have included: (1) Conducting a thorough literature review on Antillean manatees and their cultural and ecological significance; (2) examining the practical and ritual uses of manatee-related artifacts in Maya and Taíno cultures through investigating the symbolic use of manatee bone in Maya burials and Taíno rituals; (3) exploring historical documentation to identify instances of manatee-related trade during European colonization, collecting and analyzing mythological stories and traveler accounts to understand changing cultural perceptions of manatees; (4) and assessing the current human-manatee relationship in the Caribbean, including conservation attitudes and traditional ecological knowledge.

## 6.2 Synthesis of Key Findings

To address the first sub-question regarding the *varying cultural and historical significance of manatees among different Caribbean communities*, there have been noticeable shifts in perceptions over time. In Maya societies, manatee meat was integrated into the diet along coastal settlements, while objects crafted from manatee bone were traded and used in daily activities and funerary or offering rites. The transitional nature of manatees was symbolized in the crafting of human figurines from their bones, reflecting beliefs in the transfer of abilities between animals and humans. Similarly, the Taíno community held the manatee in high regard, with its bones found in ritualistic contexts. Associated with the watery underworld, manatee bones may have been believed to possess liminal powers, aiding the behique in traversing between worlds. Other indigenous cultures across the Caribbean islands and along the Central and South American coast exhibit a mix of reverence and fear towards manatees. Upon the arrival of European colonizers, manatees acquired entirely new values, being viewed as mythical creatures, medical miracles, valuable commodities, and as a food source.

Regarding the *factors influencing human motivations for manatee hunting, utilization, and trade*, several key elements came to light. The size, high caloric content, tastiness, docility, dense bones, and relatively easy capture of the manatee were significant factors. As one of the largest aquatic mammals in the Caribbean and relatively abundant, its distinctive features, resemblance to humans, and mythical attributes likely heightened its value among those who encountered it.

I gathered evidence indicating *shifts in the consumption and utilization of manatees' post-colonization*. Previous research on the trade of manatees and their products, along with historical mentions, hinted at potential increases in consumption, albeit with fragmented and biased evidence. Nevertheless, some trends emerged, such as the initial fascination with an animal believed to resemble mermaids and human women, the appreciation for its flavorful meat despite being categorized as a "fish", and the many uses for its bones, hide, oil, and meat. Regarding declines in distribution, concerns about future decline were voiced as early as the late 18<sup>th</sup> century. However, official records suggest that no significant declines were observed until the mid-20<sup>th</sup> century when trade numbers peaked, subsequently plummeting with the manatee being declared as endangered.

This aligns with my following inquiry into the *observed shifts in prehistoric, historic, and contemporary manatee abundance and distribution influenced by specific hunting or trade practices*. Pre-colonization, indigenous communities like the Maya and Taíno engaged in some level of manatee hunting and utilization. However, European narratives describing “swarms” of manatees captured in large numbers, coupled with minimal archaeological evidence of manatee bone, suggest that extensive hunting was not prevalent before colonization. But, despite the limited evidence of manatee utilization in pre-Columbian societies, a comprehensive understanding requires the consideration of many factors, which necessitates further research to thoroughly explore this hypothesis. Nonetheless, the evidence implies that there was a commercialization of the species that intensified over time following the colonial watershed, culminating to its current status as endangered. Presently, manatee populations appear to be rebounding, with accidental or traditional hunting practices by remaining Indigenous peoples being the only known activity still followed. However, despite its status as an endangered keystone species, manatees face ongoing risks from environmental degradation, pollution, global warming, and boat strikes.

Finally, concerning *the integration of current traditional and ecological knowledge of the manatee to inform conservation efforts and cultural revitalization within Caribbean communities*, my approach has been to conduct a survey aimed at assessing the current knowledge and perceptions of people, primarily in Haiti, regarding the manatee. I believe that through education and incentivization, such as monetary gain, we can enhance and advance the conservation status of the manatee, subsequently improving environmental conditions. By conducting surveys, undertaking studies, and raising awareness of the potential and rich history of the manatee, the public appreciation of this animal can be further elevated. Past examples of drastic changes in perceptions and the consequences thereof demonstrate that this can be quite successfully achieved.

### 6.3 Theoretical Reflections

To revisit my theoretical approaches, my discussions are informed by historical ecology and the historical interplay between nature and culture, understood from the human perspective. I have chosen to connect this to, and strengthen my arguments through, post-humanist aspects, on how the non-human can influence indigenous communities

and whether it can have agency. Considering the context, I also chose to include theory on decolonization so that I could focus on dismantling colonial ideologies and Western thinking and address imbalanced power dynamics.

My integration of these theoretical perspectives has hopefully shown how a deeper understanding of the intricate interplay between power dynamics, cultural beliefs, and ecological factors can help shape human behavior and attitudes towards nature. This can further enrich broader discussions about human-nature relationships and highlight the value in using multiple theoretical frameworks.

Specifically, my research contextualizes contemporary issues by explaining how past attitudes and behaviors have influenced current perceptions and practices. By exploring cultural perspectives, it emphasizes the importance of acknowledging and respecting the diversity of worldviews in conservation and environmental management dialogues. In including holistic approaches that incorporate ecological, cultural, and socio-economic considerations, my work wants to advocate for strategies that can address conservation challenges and foster sustainable human-nature relationships.

I have tried to focus on the shifting ontological roles the manatee has had, from being considered a guide and spiritual medium to food, medicine, weapons, and tools, to a mystical creature, mermaid, fish, sea monster, goddess, an abomination, a bad omen, a good omen, a seducer, and a victim – all the way to today's perception of the manatee as a keystone species and animal with massive potential due to its ecological, monetary, and cultural value.

## 6.4 Research Limitations and Constraints

While my approach offers awareness to the human-manatee relationship, it is important to acknowledge potential limitations and ethical considerations that have guided my study. In the analysis of archaeological data and literature, biases and limitations may exist due to differences in language, data and information quality, and research priorities. These things could also have impacted my understanding of the materials. Additionally, challenges in survey data collection, such as selection bias and response biases, are inherent in any survey-based research.

The thesis covers a broad topic, and it grapples with the challenge of navigating diverse datasets and perspectives, making it both general and specific. Its main purpose is to serve as a foundation

for further exploration that invites future inquiry and builds upon existing knowledge.

Several limitations have influenced the study's scope and execution. One challenge arose from the dispersed nature of archaeological collections and literature related to the Caribbean, which are scattered across multiple institutions worldwide. Additionally, there is a widespread occurrence of misidentified items within prehistoric Caribbean archaeology, often characterized by inaccurately labeled, fabricated, or reconstructed Pre-Columbian artifacts that have gone unreported. Consequently, incorporating these materials into the study proved to be logistically daunting. The data collected in this thesis does therefore by no means represent a complete or definitive collection of materials.

For my Maya and Taíno case studies, I adhered to the chronological framework of Classical Maya and Ostionoid cultural traditions from the Late Ceramic Age. I focused primarily on intact material, giving particular attention to specific objects such as funerary figurines and tools used in cohoba rituals. Material outside of these parameters received less priority and was only referenced when necessary.

The scarcity of faunal records of manatees posed a challenge too, leading to a restructuring of the thesis to prioritize the analysis of artifact-based materials, predominantly composed of manatee bone. This decision was further influenced by the logistical challenges of online data collection. Opting to prioritize artifact-based finds meant that I did not have time to meticulously examine Natural History Museum collections.

Moreover, the geographic distance between my location in Norway and the study area in the Caribbean posed practical constraints. While familial connections facilitated the collection of survey responses, the inability to conduct on-site examinations of archaeological finds due to travel limitations was a setback. Nonetheless, efforts were made to overcome this obstacle, including visits to institutions possessing relevant skeletal remains, such as the University of Bergen. Additionally, I received valuable assistance and cooperation from many of the 4-Oceans members, demonstrating the importance of collaborative partnerships in multidisciplinary research endeavors.

### 6.4.1 Ethical Considerations

Ethical considerations have also been part of my research journey. Working with archaeological materials and historical data require diligence in handling and interpreting cultural heritage materials, ensuring respect for the indigenous knowledge. I respectfully apologize should I have overlooked any important mentions, caused any confusion, or conveyed any inaccurate or inappropriate information.

In the survey administration, ethical protocols were followed, including informed consent and some data protection measures. Transparency and accountability are central to my methodology, and I am sincere in openly addressing any ethical concerns associated with my research.

## 6.5 Future Considerations and Directions

Although marine and aquatic environments hold significant historical importance, they have previously been relatively underexplored by contemporary scholars. This fact alone should urge the need for further investigation. To fully understand the development of human perceptions toward marine species and the global past and present impacts of human activities on natural populations, we need to thoroughly examine and analyze a multidisciplinary array of sources. Such a comprehensive approach is necessary for scientific inquiries regarding shifting human activities, uses, and perceptions. By doing so, we can better inform present-day actions and shape future practices in conservation and sustainability efforts.

When contemplating future directions and considerations, it is evident that there remains a significant gap in interaction between scholars in marine studies and Caribbean history. This gap presents a challenge to the critical evaluation of evidence for interactions during the pre-Colonial era. There is a need for further interdisciplinary collaboration to bridge this divide and achieve a more comprehensive understanding of historical interactions between humans and marine environments.

There is also some untapped potential for a more strategic utilization of museum collections as a source of environmental archaeological data across the Caribbean region. These collections could provide valuable insights about human ecology, environmental conditions, and more. By taking advantage of museum collections in this way, researchers could benefit from cost-effectiveness and access to materials from sites that may otherwise be lost or inaccessible.



The Caribbean saw the arrival of Western archaeologists who collected objects, specimens, and archival documentation during their investigations. And since these artifacts are now housed in major museum collections and spread across the world, it is important for researchers to acknowledge limitations such as limited documentation on collection provenance, sampling strategies, and site locations. By recognizing and addressing these limitations, future research endeavors can better navigate the complexities of studying past interactions between humans and marine environments in the Caribbean, as well as potentially contribute to cultural repatriation.

There exists a need to address the challenges presented by the role of indigeneity in Caribbean studies, particularly regarding historical and cultural perspectives. Future research should strive to avoid reducing indigenous identity to symbolic stereotypes and instead prioritize the voices and narratives of Indigenous peoples, allowing them to reclaim their stories and cultural heritage within their ancestral homelands. This is particularly relevant in regions like the Caribbean, where diverse cultural backgrounds, especially in places like Haiti, contribute to a rich tapestry of traditions and perspectives. Embracing the plurality of voices within these communities can help foster a more inclusive and accurate understanding of indigenous cultures and their relationships with the natural world. Future research should also prioritize the preservation and documentation of traditional knowledge, ensuring that it is passed down to future generations and integrated into contemporary conservation and governance practices. By promoting a more nuanced understanding of cultural identity in the Caribbean, shared traits, and expressions of indigenous agency can learn to be better recognized, and the many complexities of Caribbean history and heritage can be further acknowledged.

Through an adoption of decolonial practices, both Indigenous and non-Indigenous scholars can make use of new ontologies, thereby challenging the prevailing hegemony of Western paradigms. Notably, the act of naming emerges as one mechanism through which colonialism and white supremacy continue to color Native American and Indigenous peoples. We should recognize that the power to name serves as a tool for organization, itemization, and the dissemination of information and knowledge to both specific and conceptualized audiences (Turner, 2020, p. 6).

One final future endeavor I would like to mention, that could help evaluate the impact of manatee mortality and lay groundwork for

future conservation efforts, is a better collaboration between the Dominican Republic and Haiti to accurately assess the current manatee population in Hispaniola. Haiti in particular requires intensified manatee studies. Despite their ecological significance, manatees in Haiti face threats from fishing activities driven by their value as food and income, combined with a sometimes-skeptical attitude towards conservation efforts. Given Haiti's socio-economic challenges and limited conservation measures, initiatives must prioritize poverty alleviation and offer alternative options for coastal communities. A community-centered conservation approach, reinforced by educational outreach, is recommended to raise awareness among coastal populations about the importance of manatee conservation. Legal protection for manatees and their habitats is also crucial for effective conservation efforts in Haiti (Domínguez Tejo, 2016).

## 6.6 Personal Reflections

As I deliberated upon a title for my project, the term "memoir" made me reflect quite a bit: Memoir as a factual narrative of an individual's life – derived from the French word "mémoire", meaning "reminiscence" or "memory". I believe this word fits quite well within the context of the manatee, since it feels like this animal has travelled through numerous life cycles. It has undoubtedly endured a long and eventful existence.

The manatee has been linked with diverse phenomena. Contemporary societal discourse depicts the manatee as possessing multitude of attributes... a survivor, undoubtedly, yet also a keystone species, indispensable to our marine ecosystem. Consequently, the manatee embodies another attribute... potential – potential in the realms of ecotourism, environmental advocacy, and furtherance of interdisciplinary studies encompassing archaeology, history, and ecology. The future thus emerges as a place full of prospects and possibilities.

Concurrently, the general populace is acquiring knowledge on issues concerning climate change and environmental threats, both focal points of contemporary discourse. Furthermore, Caribbean academic discourse, historically characterized by its fragmented state, is presently witnessing growing collaboration, manifested in initiatives aimed at cultural heritage and ecological restoration and exploration of pre-colonial archaeological narratives. These developments wake a sense of scholarly excitement and anticipation in me.

### 6.6.1 On Changing Perceptions

The Western world historically saw the natural world through an anthropocentric lens, valuing animals mainly for their utility to humans rather than their intrinsic qualities. However, societal attitudes towards animals have evolved towards a more biocentric perspective in recent decades. Public perceptions of animals are influenced by their aesthetics, cultural significance, economic value, and the general knowledge level of the masses. Analyzing sources from pre-colonial to contemporary times provides insights into changing human perceptions of different species. Integrating this information into analytical models help to address scientific inquiries about shifting patterns of human-animal interactions and perceptions. However, analyzing data spanning centuries presents challenges due to its scattered nature, and requires consideration to the specific contexts for each time period and region.

Negative, or overly positive, perceptions or apathy towards animals have historically contributed to the decimation or near decimation of species. However, it is encouraging to note that species can be socially and culturally repurposed, enhancing their chances of protection. The manatee exemplifies this, as historical fear, fascination, and predatory encounters drove the species to near extinction. Yet, efforts by scientists and advocates have reshaped public perceptions, highlighting its harmless nature, aesthetic appeal, economic value, and ecological importance, garnering public support for ongoing protection and conservation efforts (Goedeke, 2004).

## 6.7 Conclusion

In conclusion, this study presents a comprehensive examination of Caribbean historical ecology, drawing information from datasets on literary information, archaeological artifacts, faunal remains, historical mentions, toponyms, trading records, and contemporary perceptions, all centered around the manatee as a research subject. Through a three-step process involving a literature review, three case studies examining the varied utilization of manatees in Maya, Taíno, and European societies, and a study questionnaire on current knowledge of the manatee, predominantly focused on Haiti; the aim has been to shed light on the socio-economic and cultural factors that influenced the exploitation of manatees before and after Caribbean colonization, as well as the repercussions on societal development and marine ecosystems.

The initial literature review has served as a bridge between existing, earlier scholarship and contemporary investigation, allowing me to identify gaps and trends that may have hitherto gone unnoticed; the case studies have let me delve deeper into specific cultural contexts, revealing the many roles manatees played in different human socioeconomic settings; and the survey questionnaire captured contemporary dimensions of the human-manatee relationship, offering insight into cultural perceptions, conservation attitudes, and traditional ecological knowledge.

There are potential implications for this research, extending beyond the academic realm. By achieving a more nuanced understanding of how socio-economic and cultural forces historically affected manatee exploitation, we can place the animal and its ecosystem into current debates on conservation and sociocultural topics, as well as in discussions on interchange between indigenous and colonial societies. The identification of changes in manatee consumption and utilization over time can offer insight for conservation strategies, and the exploration of distinctions in the cultural and historical importance of manatees among communities can help guide culturally sensitive conservation initiatives.

These points all align with my research objectives, ultimately promoting informed discussions about manatees' significance and their continued conservation in the wider Caribbean region. It also serves as an example for future studies seeking to address environmental challenges and explore the complex relationships between humans and their environment across different temporal and cultural contexts. We collectively shoulder the responsibility of addressing these challenges (Braidotti, 2017), something which accentuates the importance of collaborative endeavors in advancing conservation and sustainable management practices for the future.

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# Appendix

## Appendix I Literature Database

## 1.1 Literature Overview

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
1	Journal article/note	English	Feeding ecology	Antillean manatee diet in Belize. Plant species consumed by manatees.	Allen, A. C., Beck, C. A., Bonde, R. K., Powell, J. A., & Gomez, N. A. (2018). Diet of the Antillean manatee ( <i>Trichechus manatus manatus</i> ) in Belize, Central America. <i>Journal of the Marine Biological Association of the United Kingdom</i> , 98(7), 1831-1840.	<a href="https://www.cambridge.org/core/journals/journal-of-the-marine-biological-association-of-the-united-kingdom/article/diet-of-the-antillean-manatee-trichechus-manatus-manatus-in-belize-central-america/D0DF46BEBB12B696A2A94176EB5FDCF0">https://www.cambridge.org/core/journals/journal-of-the-marine-biological-association-of-the-united-kingdom/article/diet-of-the-antillean-manatee-trichechus-manatus-manatus-in-belize-central-america/D0DF46BEBB12B696A2A94176EB5FDCF0</a>	<a href="https://doi.org/10.1017/S0025315417000182">https://doi.org/10.1017/S0025315417000182</a>
2	MSc Thesis	English	Feeding ecology	Diet of the Antillean manatee.	Allen, A.C. (2014). <i>Diet of the Antillean Manatee (Trichechus manatus manatus) in Belize, Central America</i> . Master's thesis. Nova Southeastern University. Retrieved from NSUWorks, Oceanographic Center. (9)	<a href="https://nsuworks.nova.edu/occ_stuetd/9">https://nsuworks.nova.edu/occ_stuetd/9</a>	N/A
3	MSc Thesis	Spanish	Conservation	Study of manatees in Ensenada de la Siguanea.	Alvarez-Aleman, A. (2010). <i>Estado actual del manatí (Trichechus manatus) en la Ensenada de la Siguanea: consideraciones para su conservación</i> . Master Thesis, Universidad de la Habana.	<a href="https://aquadocs.org/handle/1834/5697">https://aquadocs.org/handle/1834/5697</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
4	Journal article	English	Ecology	Study of manatees in Cuba.	Alvarez-Alemán, A., Alfonso, E. G., Forneiro Martin-Vianna, Y., Hernández Gonzalez, Z., Domenech, R. E., Hurtado, A., ... & Frazer, T. K. (2018). Status and conservation of manatees in Cuba: historical observations and recent insights. <i>Bulletin of Marine Science</i> , 94(2), 313-327.	<a href="https://www.ingentaconnect.com/content/umrsmas/bullmar/2018/00000094/0000002/art00011">https://www.ingentaconnect.com/content/umrsmas/bullmar/2018/00000094/0000002/art00011</a>	<a href="https://doi.org/10.5343/bms.2016.1132">https://doi.org/10.5343/bms.2016.1132</a>
5	Journal article/note	English	Conservation	Antillean manatee in Cuba. Habitat and index of occurrence in marine protected area.	Alvarez-Alemán, A., Angulo-Valdés, J. A., Alfonso, E. G., Powell, J. A., & Taylor, C. R. (2017). Occurrence of the Endangered Antillean manatee <i>Trichechus manatus manatus</i> in a marine protected area, Isla de la Juventud, Cuba. <i>Oryx</i> , 51(2), 324-331.	<a href="https://www.cambridge.org/core/journals/oryx/article/occurrence-of-the-endangered-antillean-manatee-trichechus-manatus-manatus-in-a-marine-protected-area-isla-de-la-juventud-cuba/6BDF08BC41E3D99B05FA610D7F296B7F">https://www.cambridge.org/core/journals/oryx/article/occurrence-of-the-endangered-antillean-manatee-trichechus-manatus-manatus-in-a-marine-protected-area-isla-de-la-juventud-cuba/6BDF08BC41E3D99B05FA610D7F296B7F</a>	<a href="https://doi.org/10.1017/S0030605315001143">https://doi.org/10.1017/S0030605315001143</a>
6	Journal article/note	English	Conservation	Causes of manatee deaths in Cuba.	Alvarez-Alemán, A., García Alfonso, E., Powell, J. A., Jacoby, C. A., Austin, J. D., & Frazer, T. K. (2021). Causes of Mortality for Endangered Antillean Manatees in Cuba. <i>Frontiers in Marine Science</i> , 8: 646021	<a href="https://www.frontiersin.org/articles/">https://www.frontiersin.org/articles/</a>	<a href="https://doi.org/10.3389/fmars.2021.646021">https://doi.org/10.3389/fmars.2021.646021</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
7	Journal article/note	Spanish	Archaeological	Skulls of manatees found in shell midden. Dated to between 3300-3000 B.C.	Alvaréz-León, R.; Maldonado-Pachón, H. (2010). El manatí caribeño <i>Trichechus manatus</i> Linnaeus, 1758, en los restos faunísticos del conchero de Puerto Chacho (3300 a.C.), Caribe Colombiano. <i>Boletín Científico Museo Historia Natural Universidad de Caldas</i> 14(2): 101-119	<a href="http://www.scielo.org.co/scielo.php?script=sci_arttext&amp;pid=S0123-30682010000200007">http://www.scielo.org.co/scielo.php?script=sci_arttext&amp;pid=S0123-30682010000200007</a>	N/A
8	MSc Thesis	English	Feeding ecology	The first study to apply stable isotope analysis to Antillean manatees.	Alves, C. (2007). <i>Stabel Isotope Turnover Rates And Diet-tissue Discrimination In The Skin Of West Indian Manatees: Implcations For Evaluating Their Feeding Ecology And Habitat Use</i> . [Master thesis, University Central of Florida]. University Central of Florida Repository	<a href="https://stars.library.ucf.edu/etd/3061/">https://stars.library.ucf.edu/etd/3061/</a>	N/A
9	Journal article/note	English	Feeding ecology	The first study to apply stable isotope analysis to Antillean manatees; article.	Alves-Stanley, C. D., Worthy, G. A., & Bonde, R. K. (2010). Feeding preferences of West Indian manatees in Florida, Belize, and Puerto Rico as indicated by stable isotope analysis. <i>Marine Ecology Progress Series</i> , 402, 255-267.	<a href="https://www.int-res.com/abstracts/meps/v402/p255-267/">https://www.int-res.com/abstracts/meps/v402/p255-267/</a>	<a href="https://doi.org/10.3354/meps08450">https://doi.org/10.3354/meps08450</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
10	Bachelor thesis	English	Archaeological	Comparison of different Maya landscapes.	Andersson, C. S. (2018). <i>A Comparative Study of Mayan Archaeology: A Case Study of the Regional Spatial Differences in the Mayan Natural and Urban Landscapes</i> . [BA thesis]	<a href="https://www.diva-portal.org/smash/record.jsf?pid=diva2:1230855">https://www.diva-portal.org/smash/record.jsf?pid=diva2:1230855</a>	N/A
11	MSc Thesis	Spanish	Feeding ecology	The study aims to determine the digestive efficiency; bromatological composition of its diet and presence of viable seeds in feces of the Antillean manatee.	Arévalo-González, G.K. (2020). <i>Aspects of the feeding ecology and physiology of Antillean manatees (Trichechus manatus manatus)</i> . [Master Thesis]. Universidad Veracruzana.	<a href="https://cdigital.uv.mx/handle/1944/50614">https://cdigital.uv.mx/handle/1944/50614</a>	N/A
12	Journal article/note	English	Conservation	Study to determine size of manatee population.	Arévalo-González, G.K., Castelblanco-Martínez, N., Sanchez-Palomino, P., Lopez-Arévalo, H., Marmontel, M. (2014). Complementary methods to estimate population size of Antillean Manatees ( <i>Sirenia Trichechidae</i> ) at Ciénaga de Paredes, Santander, Colombia. <i>Journal of Threatened Taxa</i> 6(6): 5830-5837	<a href="#">(54) Complementary methods to estimate population size of Antillean manatees (Sirenia: Trichechidae) at La Ciénaga de Paredes, Santander, Colombia.   Miriam Marmontel, Nataly Castelblanco Martínez, and Pedro Sanchez Palomino – Academia.edu</a>	N/A
13	Journal article	English	Mythology	Article on the myth surrounding the Supreme Being in Taíno legends.	Arrom, J. J. (1980). Taíno mythology: Notes on the supreme being. <i>Latin American Literary Review</i> , 21-37.	<a href="https://www.jstor.org/stable/20119208">https://www.jstor.org/stable/20119208</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
14	PhD Thesis	English	Conservation	Manatee population in the coastal zone of Belize.	Auil, N. E. (2004). <i>Abundance and distribution trends of the West Indian manatee in the coastal zone of Belize: implications for conservation</i> [Doctoral dissertation]. Texas A&M University.	<a href="https://oaktrust.library.tamu.edu/handle/1969.1/560">https://oaktrust.library.tamu.edu/handle/1969.1/560</a>	N/A
15	Journal article/note	English	Conservation	A report of 15 sightings of the Antillean manatee from 2011 to 2016.	Ávila-Canto, J. G., Velázquez-Mendoza, C., Castelblanco-Martínez, N., Niño-Torres, C., & Córdova-Tapia, F. (2017). Is the Antillean manatee ( <i>Trichechus manatus manatus</i> ) back in town? Presence of the species at the "Área de Protección de Flora y Fauna Yum Balam", Quintana Roo, Mexico. <i>Revista Mexicana de biodiversidad</i> , 88(4), 999-1002.	<a href="http://www.scielo.org.mx/scielo.php?pid=S1870-34532017000400999&amp;script=sci_arttext">http://www.scielo.org.mx/scielo.php?pid=S1870-34532017000400999&amp;script=sci_arttext</a>	<a href="https://doi.org/10.1016/j.rm.b.2017.10.036">https://doi.org/10.1016/j.rm.b.2017.10.036</a>
16	Journal article/note	Spanish	Distribution	Spatial distribution of <i>Trichechus manatus manatus</i> in Chetumal Bay; Quintana Roo; Mexico from November 1994 through June 1995.	Axis-Arroyo, J., Morales-Vela, B., Torruco-Gómez, D., & Vega-Cendejas, M. E. (1998). Variables asociadas con el uso de hábitat del manatí del Caribe ( <i>Trichechus manatus</i> ), en Quintana Roo, México (Mammalia). <i>Revista de Biología Tropical</i> , 46(3), 791-803.	<a href="https://www.scielo.sa.cr/scielo.php?pid=S0034-77441998000300033&amp;script=sci_arttext&amp;lng=en">https://www.scielo.sa.cr/scielo.php?pid=S0034-77441998000300033&amp;script=sci_arttext&amp;lng=en</a>	N/A



Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
17	Master thesis	English	Zooarchaeological	Study of faunal sample from a site located in Belmont; Jamaica; near the Bluefields Bay marine sanctuary.	Azevedo, D. M. (2015). <i>Late Taino occupation of Jamaica: A zooarchaeological analysis of faunal materials from the Bluefields Bay site</i> , [MA thesis] Utah State University.	<a href="https://search.proquest.com/openview/90e94b042f8f936f89b75d1de888600c/1?pq-origsite=gscholar&amp;cbl=18750">https://search.proquest.com/openview/90e94b042f8f936f89b75d1de888600c/1?pq-origsite=gscholar&amp;cbl=18750</a>	N/A
18	Journal article/note	English	Conservation	Study of manatee resting holes.	Bacchus, M.-L.C., Dunbar, S.G., and Self-Sullivan, C. (2009). Characterization of resting holes and their use by the Antillean manatee ( <i>Trichechus manatus manatus</i> ) in the Drowned Cayes, Belize. <i>Aquatic Mammals</i> 35, 62-71.	<a href="#">(PDF) Characterization of Resting Holes and Their Use by the Antillean Manatee (Trichechus manatus manatus) in the Drowned Cayes, Belize (researchgate.net)</a>	N/A
19	Proceedings paper	English	Historical	Study on the impact of fishing in Cuba.	Baisre, J. A. (2007). Historical development of Cuban fisheries: why we need an integrated approach to fisheries management?. <i>Gulf and Caribbean Fisheries Institute</i> .	<a href="http://hdl.handle.net/1834/5109">http://hdl.handle.net/1834/5109</a>	N/A
20	Journal article	English	Conservation	An interdisciplinary social-ecological research study; to better understand the governance of ecosystem services and the foodsystem in the Turks and Caicos Islands.	Baker, S., et al. (2015). "An ecosystems perspective for food security in the Caribbean: Seagrass meadows in the Turks and Caicos Islands." <i>Ecosystem services</i> 11: 12-21.	<a href="https://www.sciencedirect.com/science/article/pii/S2212041614000825">https://www.sciencedirect.com/science/article/pii/S2212041614000825</a>	<a href="https://doi.org/10.1016/j.ecoser.2014.07.011">https://doi.org/10.1016/j.ecoser.2014.07.011</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
21	BSc Thesis	English	Conservation and distribution	The study provide information about manatee behavior and habitat use; which can inform the Belizean government in their efforts to manage and protect the species.	Barnes, S. E. (2021). <i>Behavioral budget of the Antillean Manatee at resting holes in Saint George's Caye, Belize</i> . [Bachelor Thesis]. University of Vermont.	<a href="https://scholarworks.uvm.edu/src/2020/marinebiology/3/">https://scholarworks.uvm.edu/src/2020/marinebiology/3/</a>	N/A
22	Journal article	English	Archaeological	Study of two caves/sinkholes used by Taíno.	Beeker, C. D., Conrad, G. W., & Foster, J. W. (2002). Taíno use of flooded caverns in the East National Park region, Dominican Republic. <i>Journal of Caribbean Archaeology</i> , 3, 1-26.	<a href="https://www.researchgate.net/profile/John-Foster-2/publication/28322212_Taino_Use_of_Flooded_Caverns_in_the_East_National_Park_Region_Dominican_Republic/links/5bb2a931a6fdccd3cb813a10/Taino-Use-of-Flooded-Caverns-in-the-East-National-Park-Region-Dominican-Republic.pdf">https://www.researchgate.net/profile/John-Foster-2/publication/28322212_Taino_Use_of_Flooded_Caverns_in_the_East_National_Park_Region_Dominican_Republic/links/5bb2a931a6fdccd3cb813a10/Taino-Use-of-Flooded-Caverns-in-the-East-National-Park-Region-Dominican-Republic.pdf</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
23	Journal article/note	English	Conservation and distribution	Aerial surveys and interviews were conducted in the Dominican Republic to determine the distribution and abundance of manatees.	Belitsky, D. W., & Belitsky, C. L. (1980). Distribution and abundance of manatees <i>Trichechus manatus</i> in the Dominican Republic. <i>Biological Conservation</i> , 17(4), 313-319.	<a href="https://www.sciencedirect.com/science/article/abs/pii/0006320780900300">https://www.sciencedirect.com/science/article/abs/pii/0006320780900300</a>	<a href="https://doi.org/10.1016/0006-3207(80)90030-0">https://doi.org/10.1016/0006-3207(80)90030-0</a>
24	Journal article	English	Conservation and distribution	A summarization of the present distribution and status of the Sirenia.	Bertram, G. C. L., & Bertram, C. R. (1973). The modern Sirenia: their distribution and status. <i>Biological Journal of the Linnean Society</i> , 5(4), 297-338.	<a href="https://academic.oup.com/biolinnean/article-abstract/5/4/297/2682617">https://academic.oup.com/biolinnean/article-abstract/5/4/297/2682617</a>	N/A
25	Journal article/note	English	Distribution	The paper discusses the current status and usage of manatees.	Bertram, G. C. L., & Bertram, C. R. (1962). Manatees of Guiana. <i>Nature</i> , 196(4861), 1329-1329.	<a href="https://www.nature.com/articles/1961329a0.pdf?origin=ppub">https://www.nature.com/articles/1961329a0.pdf?origin=ppub</a>	N/A
26	Book chapter	English	Habitat	The paper deals mainly with detailed observations on the habitats and habits of manatees in the Guianas.	Bertram, G. C. L., & Bertram, C. R. (1964). "Manatees in the Guianas". <i>Zoologica : scientific contributions of the New York Zoological Society</i> . 49(7), 115-120	<a href="https://web.archive.org/web/20220223063417id_/https://www.biodiversitylibrary.org/partpdf/203296">https://web.archive.org/web/20220223063417id_/https://www.biodiversitylibrary.org/partpdf/203296</a>	N/A
27	Dictionary	English	Vocabulary	Maya vocabulary	Boot, E. (2009). The Updated Preliminary Classic Maya-English/English-Classic Maya Vocabulary of Hieroglyphic Readings. Mesoweb. Electronic document.	N/A	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
28	Dictionary	English	Vocabulary	Maya vocabulary	Boot, E. (1995). "A Short Itza Maya Vocabulary."	N/A	N/A
29	Journal article/note	English	Epidemiology	Report of toxoplasmosis in Antillean manatees.	Bossart, G. D., Mignucci-Giannoni, A. A., Rivera-Guzman, A. L., Jimenez-Marrero, N. M., Camus, A. C., Bonde, R. K., Dubey, J.P., & Reif, J. S. (2012). Disseminated toxoplasmosis in Antillean manatees <i>Trichechus manatus manatus</i> from Puerto Rico. <i>Diseases of Aquatic Organisms</i> , 101(2), 139-144.	<a href="https://pubmed.ncbi.nlm.nih.gov/23135141/">https://pubmed.ncbi.nlm.nih.gov/23135141/</a>	<a href="https://doi.org/10.3354/dao02526">https://doi.org/10.3354/dao02526</a>
30	Journal article	English	Mythology	Assessment and comparison of the zemi; teotl and huaca.	Botta, S. (2022). "Zemi, teotl, huaca: reconsidering materiality through three emic concepts in the New World." <i>Religion</i> 52(1): 48-66.	<a href="https://www.tandfonline.com/doi/abs/10.1080/0048721X.2021.2011081">https://www.tandfonline.com/doi/abs/10.1080/0048721X.2021.2011081</a>	<a href="https://doi.org/10.1080/0048721X.2021.2011081">https://doi.org/10.1080/0048721X.2021.2011081</a>
31	Book	French	Log	The establishment of the French on the island of Martinique since 1635.	Bouton, J. <i>Relation de l'establissement des françois depuis l'an 1635: en l'isle de la Martinique, l'une des Antilles de l'Amerique: des mours des sauvages, de la situation, &amp; des autres singularitez de l'isle</i> , S. Cramoisy.	N/A	N/A
32	Book	French	Log	Examination of Guadeloupe	Boyer-Peyreleau, E. É. (1823). <i>Les Antilles françaises, particulièrement la Guadeloupe, depuis leur découverte jusqu'au 1<sup>er</sup> janvier 1823</i> , Brissot-Thivars.	N/A	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
33	Journal article	English	Mythology	Unveils the biological and scientific basis behind the myths and legends surrounding mermaids and manatees.	Brito, C. (2013). On mermaids and manatees. <i>From nature to science</i> , 12-22.	<a href="https://run.unl.pt/bitstream/10362/98846/1/028_ECS2013_SpEcPub56_illustration_web_16_26.pdf">https://run.unl.pt/bitstream/10362/98846/1/028_ECS2013_SpEcPub56_illustration_web_16_26.pdf</a>	N/A
34	Journal article	English	Mythology	The text explores early modern knowledge of mermaids; manatees; and sea monsters; emphasizing differences in understanding and representation.	Brito, C. (2018). Connected margins and disconnected knowledge. <i>Cross-cultural Exchange and the Circulation of Knowledge in the First Global Age</i> , 1, 106-132.	<a href="https://run.unl.pt/handle/10362/57179">https://run.unl.pt/handle/10362/57179</a>	N/A
35	Journal article	English	Environmental history	The text highlights manatees' historical importance in the tropical Atlantic; noting their uses; economic value; and near-extinction due to overexploitation. It advocates understanding their roles in marine environmental history and socio-cultural interactions in the Americas.	Brito, C. (2019). People, manatees and the aquatic environment in early modern Americas: Confluence and divergence in the historical relationships between humans and animals. <i>Revista Brasileira de História</i> , 39, 162-184.	<a href="https://www.scielo.br/i/rbh/a/pNKxx7q5vqrsqfMRfyf57nr/?lang=en">https://www.scielo.br/i/rbh/a/pNKxx7q5vqrsqfMRfyf57nr/?lang=en</a>	<a href="http://dx.doi.org/10.1590/1806-93472019v39n81-08">http://dx.doi.org/10.1590/1806-93472019v39n81-08</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
36	Journal article	English	Historical	The text explores how human attitudes toward the environment in the Caribbean have evolved over time; focusing on large marine mega fauna as case studies.	Brito, C., & Vieira, N. (2016). A sea-change in the sea? Perceptions and practices towards sea turtles and manatees in Portugal's Atlantic Ocean legacy. <i>Perspectives on Oceans past</i> , 175-191.	<a href="https://link.springer.com/chapter/10.1007/978-94-017-7496-3_10">https://link.springer.com/chapter/10.1007/978-94-017-7496-3_10</a>	N/A
37	Journal article	English	Export	The text argues that extractive economies have unique demographic; ecological, and infrastructural effects; advocating for time-lagged models to analyze underdevelopment; illustrated by a case study of the Amazon Basin from colonial conquest to the present.	Bunker, S. G. (1984). Modes of extraction, unequal exchange, and the progressive underdevelopment of an extreme periphery: the Brazilian Amazon, 1600-1980. <i>American Journal of Sociology</i> , 89(5), 1017-1064.	<a href="https://www.journals.uchicago.edu/doi/abs/10.1086/227983">https://www.journals.uchicago.edu/doi/abs/10.1086/227983</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
38	Journal article/note	English	Distribution	The study in the Mexican Caribbean and Belize analyzes abiotic factors and manatee distribution in the Hondo River estuary; revealing the manatees' preferences for specific environmental conditions.	Callejas-Jiménez, M. E., Alcérreca-Huerta, J. C., Morales-Vela, B., & Carrillo, L. (2021). Spatial and seasonal variations in surface water temperature and salinity in the Mexico-Belize riverine estuary: Possible comfort conditions for manatees?. <i>Marine Mammal Science</i> , 37(4), 1454-1474.	<a href="https://doi.org/10.1111/mm.s.12838">Spatial and seasonal variations in surface water temperature and salinity in the Mexico-Belize riverine estuary: Possible comfort conditions for manatees?</a>	<a href="https://doi.org/10.1111/mm.s.12838">https://doi.org/10.1111/mm.s.12838</a>
39	Book chapter	English	Zooarchaeological	The paper explores zooarchaeological assemblages in the West Indies, raising questions about subsistence choices among regional sites; hinting at potential overexploitation or cultural/sociological factors for variations.	Carlson, L. A. and W. F. Keegan (2004). "Resource depletion in the prehistoric northern West Indies." <i>Voyages of discovery: the archaeology of islands</i> : 85-107.	<a href="https://www.researchgate.net/profile/William-Keegan-2/publication/288007580_Resource_depletion_in_the_prehistoric_northern_West_Indies/links/57bdbc8808aeda1ec385f7c3/Resource-depletion-in-the-prehistoric-northern-West-Indies.pdf">https://www.researchgate.net/profile/William-Keegan-2/publication/288007580_Resource_depletion_in_the_prehistoric_northern_West_Indies/links/57bdbc8808aeda1ec385f7c3/Resource-depletion-in-the-prehistoric-northern-West-Indies.pdf</a>	N/A
40	Research paper	English	Archaeological	Manatee exploitation in Puerto Rico.	Carlson, L. A., et al. (2015). Manatee exploitation at the Early Ostionoid site of CE-34, eastern Puerto Rico. <i>International Association for Caribbean Archaeology Congress</i> , St. Maarten, July.	N/A	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
41	PhD Thesis	Spanish	Ecology	The study examines the space usage; habitat selectivity; and diet of the endangered Antillean manatee in the Chetumal Bay; emphasizing the ecological importance of these factors for effective species management and conservation in the estuarine environment.	Castelblanco Martínez, D. N., & Hernández Arana, H. A. (2010). <i>Ecología, comportamiento y uso de hábitat de manatíes en la Bahía de Chetumal</i> (No. TE/599.55097267 C3). [Doctoral dissertation]	<a href="https://biblioteca.eco-sur.mx/cgi-bin/koha/opac-detail.pl?biblionumber=000050024">https://biblioteca.eco-sur.mx/cgi-bin/koha/opac-detail.pl?biblionumber=000050024</a>	N/A
42	Journal article/note	English	Ecology	Chetumal Bay serves as a refuge for herbivorous aquatic mammal <i>Trichechus manatus</i> ; and a trophic model indicates their impact on the ecosystem; but caution is advised due to critical knowledge gaps; emphasizing the need for improved models with local information on the bay's ecology and	Castelblanco-Martínez, D. N., Barba, E., Schmitter-Soto, J. J., Hernández-Arana, H. A., & Morales-Vela, B. (2012). The trophic role of the endangered Caribbean manatee <i>Trichechus manatus</i> in an estuary with low abundance of seagrass. <i>Estuaries and Coasts</i> , 35(1), 60-77.	<a href="https://www.researchgate.net/profile/Everardo-Barba/publication/234139672_The_Trophic_Role_of_the_Endangered_Caribbean_Manatee_Trachechus_manatus_in_an_Estuary_with_low_Abundance_of_Seagrass/links/09e415058bf223bfbc000000/The-Trophic-Role-of-the-Endangered-Caribbean-Manatee-Trichechus-manatus-in-an-Estuary-with-">https://www.researchgate.net/profile/Everardo-Barba/publication/234139672_The_Trophic_Role_of_the_Endangered_Caribbean_Manatee_Trachechus_manatus_in_an_Estuary_with_low_Abundance_of_Seagrass/links/09e415058bf223bfbc000000/The-Trophic-Role-of-the-Endangered-Caribbean-Manatee-Trichechus-manatus-in-an-Estuary-with-</a>	<a href="https://doi.org/10.1007/s12237-011-9420-8">https://doi.org/10.1007/s12237-011-9420-8</a>



Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
				manatee population.		<a href="#">low-Abundance-of-Seagrass.pdf</a>	
43	Journal article/note	English	Habitat	The Antillean manatee presents challenges for population monitoring; but a quantitative analysis in French Guiana using line transect surveys and niche modeling reveals seasonal differential habitat use.	Castelblanco-Martínez, D. N., dos Reis, V., & de Thoisy, B. (2018). How to detect an elusive aquatic mammal in complex environments? A study of the Endangered Antillean manatee <i>Trichechus manatus manatus</i> in French Guiana. <i>Oryx</i> , 52(2), 382-392.	<a href="https://web.archive.org/web/20200509100951id_/https://www.cambridge.org/core/services/aop-cambridge-core/content/view/F418C28689C463A8379149B2520EF291/S0030605316000922a.pdf/div-class-title-how-to-detect-an-elusive-aquatic-mammal-in-complex-environments-a-study-of-the-endangered-antillean-manatee-span-class-italic-trichechus-manatus-span-in-french-guiana-div.pdf">https://web.archive.org/web/20200509100951id_/https://www.cambridge.org/core/services/aop-cambridge-core/content/view/F418C28689C463A8379149B2520EF291/S0030605316000922a.pdf/div-class-title-how-to-detect-an-elusive-aquatic-mammal-in-complex-environments-a-study-of-the-endangered-antillean-manatee-span-class-italic-trichechus-manatus-span-in-french-guiana-div.pdf</a>	<a href="https://doi.org/10.1017/S0030605316000922">https://doi.org/10.1017/S0030605316000922</a>
44	Journal article	English	Systematic review	A systematic review on literature on Antillean manatees.	Castelblanco-Martínez, D. N., Gonzalez-Socoloske, D., Cabrias, L., Garcés-Cuartas, N., Arévalo-González, G. K., Borges, J. C. G., & Marmontel, M. (2023). Accomplishments and challenges of research on the Antillean manatee: A bibliometric analysis. <i>Latin</i>	<a href="https://lajamjournal.org/index.php/lajam/article/view/1545/511">https://lajamjournal.org/index.php/lajam/article/view/1545/511</a>	<a href="https://doi.org/10.5597/lajam00297">https://doi.org/10.5597/lajam00297</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
					<i>American Journal of Aquatic Mammals</i> , 18(1), 158-166.		
45	Journal article/note	English	Ecology	The study uses simulations to predict the trends of the Antillean manatee metapopulation under different conservation scenarios; highlighting its sensitivity to human impacts and habitat fragmentation. The findings emphasize the need for international collaboration to implement effective conservation strategies across countries.	Castelblanco-Martínez, D. N., Nourisson, C., Quintana-Rizzo, E., Padilla-Saldivar, J., & Schmitter-Soto, J. J. (2012). Potential effects of human pressure and habitat fragmentation on population viability of the Antillean manatee <i>Trichechus manatus manatus</i> : a predictive model. <i>Endangered Species Research</i> , 18(2), 129-145.	<a href="https://www.int-res.com/abstracts/esr/v18/n2/p129-145">https://www.int-res.com/abstracts/esr/v18/n2/p129-145</a>	<a href="https://doi.org/10.3354/esr00439">https://doi.org/10.3354/esr00439</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
46	Journal article/note	English	Tracking	The study; based on satellite tracking of 15 Antillean manatees in Chetumal Bay; Mexico; identifies two movement patterns—local residence and long-distance travel—underscoring the importance of conserving movement corridors to facilitate genetic exchange and mitigate threats in both protected and unprotected areas.	Castelblanco-Martínez, D. N., Padilla-Saldívar, J., Hernández-Arana, H. A., Slone, D. H., Reid, J. P., & Morales-Vela, B. (2013). Movement patterns of Antillean manatees in Chetumal Bay (Mexico) and coastal Belize: A challenge for regional conservation. <i>Marine Mammal Science</i> , 29(2), E166-E182.	<a href="https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1748-7692.2012.00602.x">https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1748-7692.2012.00602.x</a>	<a href="https://doi.org/10.1111/j.1748-7692.2012.00602.x">https://doi.org/10.1111/j.1748-7692.2012.00602.x</a>
47	Journal article/note	English	Habitat	The study assesses the habitat use and anthropogenic impacts on the Antillean manatee population in the Orinoco River of Colombia; emphasizing the importance of understanding migration dynamics and regulating activities such as net use and boat	Castelblanco-Martínez, D. N., Bermúdez-Romero, A. L., Gómez-Camelo, I. V., Rosas, F. C. W., Trujillo, F., & Zerda-Ordoñez, E. (2009). Seasonality of habitat use, mortality and reproduction of the vulnerable Antillean manatee <i>Trichechus manatus</i> in the Orinoco River, Colombia: implications for conservation. <i>Oryx</i> , 43(2), 235-242.	<a href="https://www.cambridge.org/core/journals/oryx/article/seasonality-of-habitat-use-mortality-and-reproduction-of-the-vulnerable-antillean-manatee-trichechus-manatus-manatus-in-the-orinoco-river-colombia-implications-for-conservation/AD4A76C2EFAE7F3F9F529B2BA8F3AA5D">https://www.cambridge.org/core/journals/oryx/article/seasonality-of-habitat-use-mortality-and-reproduction-of-the-vulnerable-antillean-manatee-trichechus-manatus-manatus-in-the-orinoco-river-colombia-implications-for-conservation/AD4A76C2EFAE7F3F9F529B2BA8F3AA5D</a>	<a href="https://doi.org/10.1017/S0030605307000944">https://doi.org/10.1017/S0030605307000944</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
				traffic for effective conservation.			
48	Journal article/note	English	Habitat	Depiction of manatees in British Honduras.	Charnock-Wilson, J. (1968). The manatee in British Honduras. <i>Oryx</i> , 9(4), 293-294.	<a href="https://www.cambridge.org/core/journals/oryx/article/manatee-in-british-honduras/1236433F6EEB691110BA3385D7F1441F">https://www.cambridge.org/core/journals/oryx/article/manatee-in-british-honduras/1236433F6EEB691110BA3385D7F1441F</a>	<a href="https://doi.org/10.1017/S0030605300006694">https://doi.org/10.1017/S0030605300006694</a>
49	Journal article	English	Archaeological	Pre-Columbian artifacts show contorted positions; hinting at possible hypermobility syndrome representations and providing paleopathological insights.	Checa, A. (2012). Paleopathological interpretations of hypermobility syndrome in the art from ancient America. <i>Rheumatology international</i> , 32, 3291-3294.	<a href="https://link.springer.com/article/10.1007/s00296-011-2007-7">https://link.springer.com/article/10.1007/s00296-011-2007-7</a>	<a href="https://doi.org/10.1007/s00296-011-2007-7">https://doi.org/10.1007/s00296-011-2007-7</a>
50	Book	English	Vocabulary	Decoding the Maya life and script.	Coe, M. D. (2012). <i>Breaking the Maya code</i> , Thames & Hudson.	N/A	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
51	Journal article/note	English	Distribution	Effective management of the threatened Antillean manatee in Puerto Rico requires accurate population estimates. Adjusted aerial surveys since 1976 reveal a more widespread distribution than previously understood; emphasizing the need for improved estimation methods and sharing protocols for enhanced regional conservation.	Collazo, J. A., Krachey, M. J., Pollock, K. H., Pérez-Aguilo, F. J., Zegarra, J. P., & Mignucci-Giannoni, A. A. (2019). Population estimates of Antillean manatees in Puerto Rico: an analytical framework for aerial surveys using multi-pass removal sampling. <i>Journal of Mammalogy</i> , 100(4), 1340-1349.	N/A	<a href="https://doi.org/10.1093/jmammal/gyz076">https://doi.org/10.1093/jmammal/gyz076</a>
52	Journal article	English	Archaeological	Museum collections; an underutilized source of environmental archaeological data; provide quantified vertebrate faunal insights from three Cuban Archaic sites; contributing to a better understanding of	Colten, R. H., & Worthington, B. (2019). Museum collections and Archaic era vertebrate faunal remains from Cuba. <i>Environmental Archaeology</i> , 24(2), 211-227.	<a href="https://www.tandfonline.com/doi/abs/10.1080/14614614103.2018.1500157">https://www.tandfonline.com/doi/abs/10.1080/14614614103.2018.1500157</a>	<a href="https://doi.org/10.1080/14614103.2018.1500157">https://doi.org/10.1080/14614103.2018.1500157</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
				subsistence adaptations and ecological significance in Cuban prehistory.			
53	Journal article	English	Archaeological	Paper on the findings from the Manantial de la Aleta; a flooded cavern in the southeastern Dominican Republic.	Conrad, G. W., Foster, J. W., & Beeker, C. D. (2001). Organic artifacts from the Manantial de la Aleta, Dominican Republic: preliminary observations and interpretations. <i>Journal of Caribbean Archaeology</i> , 2, 1-20.	<a href="https://www.floridamuseum.ufl.edu/wp-content/uploads/sites/44/2017/04/Conrad_et_al.pdf">https://www.floridamuseum.ufl.edu/wp-content/uploads/sites/44/2017/04/Conrad_et_al.pdf</a>	N/A
54	Book	English	Archaeological	Book on the Coclé culture	Cooke, R. (2001). <i>Gran Coclé: Coclé Culture</i> . In Encyclopedia of Prehistory: Volume 5: Middle America (pp. 197-203). Boston, MA: Springer US.	<a href="https://link.springer.com/chapter/10.1007/978-1-4615-0525-9_13">https://link.springer.com/chapter/10.1007/978-1-4615-0525-9_13</a>	N/A
55	Book chapter	English	Zooarchaeological	Case studies on zooarchaeology.	Cooke, R. G. (2004). <i>Rich, poor, shaman, child: Animals, rank, and status in the 'Gran Coclé' culture area of pre-Columbian Panama</i> . In Behaviour behind Bones. The Zooarchaeology of Ritual, Religion, Status and Identity, 271-284.	<a href="https://www.torrossa.com/qs/resourceProxy?an=4914784&amp;publisher=FZ6430#page=284">https://www.torrossa.com/qs/resourceProxy?an=4914784&amp;publisher=FZ6430#page=284</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
56	Journal article	Spanish	Mythology	Manatee folklore.	Correa-Viana, M. and T. J. O'Shea (1992). "El manati en la tradicion y folklore de Venezuela." <i>Revista Unellez de Ciencia y Tecnologia</i> 10(1-2): 7-13.	N/A	N/A
57	Journal article/note	English	Ecology	The study documented the social perception and local knowledge of the Antillean manatee in the Hondo River.	Corona-Figueroa M.F., Ríos-Ramírez J.N., Castelblanco-Martínez N., Vilchez-Mendoza S.J., Delgado-Rodríguez L.D.,(2022) The existence value of the Antillean manatee in the unprotected Hondo River (Mexico) as a fundamental component for its conservation. <i>Journal for Nature Conservation</i> ,	<a href="https://www.sciencedirect.com/science/article/abs/pii/S1617138122001315">https://www.sciencedirect.com/science/article/abs/pii/S1617138122001315</a>	<a href="https://doi.org/10.1016/j.jnc.2022.126258">https://doi.org/10.1016/j.jnc.2022.126258</a>
58	Journal article/note	English	Ecology	Boat-based surveys conducted in the Hondo River.	Corona-Figueroa, M. F., Ríos, N., Castelblanco-Martínez, D. N., Vilchez-Mendoza, S., Delgado-Rodríguez, D., & Niño-Torres, C. A. (2021). Searching for manatees in the dark waters of a transboundary river between Mexico and Belize: a predictive distribution model. <i>Aquatic Ecology</i> , 55(1), 59-74.	<a href="https://link.springer.com/article/10.1007/s10452-020-09810-9">https://link.springer.com/article/10.1007/s10452-020-09810-9</a>	<a href="https://doi.org/10.1007/s10452-020-09810-9">https://doi.org/10.1007/s10452-020-09810-9</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
59	Journal article	English	Geography	The fishing industry in British Honduras.	Craig, A. K. (1966). The geography of fishing in British Honduras and adjacent coastal areas, Louisiana State University and Agricultural & Mechanical College.	<a href="https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=&amp;cad=rja&amp;uact=8&amp;ved=2ahUKewjLsr6Rt_2BAxUecfEDHb17DB0QFnoECAyQAO&amp;url=https%3A%2F%2Fdigitalcommons.lsu.edu%2Fcgi%2Fviewcontent.cgi%3Freferer%3D%26httpsredir%3D1%26article%3D2116%26context%3Dgradschool_disstheses&amp;usq=AOvVaw1J7fsdijSFQDczB-cOudtN&amp;opi=89978449">https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=&amp;cad=rja&amp;uact=8&amp;ved=2ahUKewjLsr6Rt_2BAxUecfEDHb17DB0QFnoECAyQAO&amp;url=https%3A%2F%2Fdigitalcommons.lsu.edu%2Fcgi%2Fviewcontent.cgi%3Freferer%3D%26httpsredir%3D1%26article%3D2116%26context%3Dgradschool_disstheses&amp;usq=AOvVaw1J7fsdijSFQDczB-cOudtN&amp;opi=89978449</a>	N/A
60	Journal article	English	Conservation	Traditional knowledge from interviews with riverine communities.	Crema, L. C., da Silva, V. M. F., & Piedade, M. T. F. (2020). Riverine people's knowledge of the Vulnerable Amazonian manatee <i>Trichechus inunguis</i> in contrasting protected areas. <i>Oryx</i> , 54(4), 529-538.	<a href="https://www.cambridge.org/core/journals/oryx/article/riverine-peoples-knowledge-of-the-vulnerable-amazonian-manatee-trichechus-inunguis-in-contrasting-protected-areas/1395E3537CE1FF66503BE4F4D9C536AE">https://www.cambridge.org/core/journals/oryx/article/riverine-peoples-knowledge-of-the-vulnerable-amazonian-manatee-trichechus-inunguis-in-contrasting-protected-areas/1395E3537CE1FF66503BE4F4D9C536AE</a>	DOI: <a href="https://doi.org/10.1017/S0030605318000686">https://doi.org/10.1017/S0030605318000686</a>



Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
61	BSc Thesis	Spanish	Conservation	Main causes and factors to the endangerment to the manatee in the Orinoco river.	Crespo, S. 2013. <i>El manatí del Orinoco: Animal en peligro de extinción. Reportaje Interpretativo</i> . [Bachelor Thesis]. Universidad Católica Andrés Bello.	<a href="http://catalogo-gy.ucab.edu.ve/documentos/tesis/aab3986.pdf">http://catalogo-gy.ucab.edu.ve/documentos/tesis/aab3986.pdf</a>	N/A
62	Journal article	English	Ecology	Comment on Julio Baisre's "Setting a Baseline for Caribbean Fisheries"	Curet, L. A. (2010). The Archaeological Perspective: Comment on Julio Baisre's "Setting a Baseline for Caribbean Fisheries". <i>Journal of Island &amp; Coastal Archaeology</i> , 5(1), 152-155.	<a href="https://www.tandfonline.com/doi/full/10.1080/15564891003655964">https://www.tandfonline.com/doi/full/10.1080/15564891003655964</a>	<a href="https://doi.org/10.1080/15564891003655964">https://doi.org/10.1080/15564891003655964</a>
63	Journal article	English	Archaeological	Theodoor de Booy; an early foreign scholar; played a significant role in Caribbean archaeology; conducting extensive expeditions; collecting artifacts; and creating a photographic collection; although his contributions are often underestimated.	Curet, L. A., & Galban, M. (2019). Theodoor de Booy: Caribbean Expeditions and Collections at the National Museum of the American Indian. <i>Journal of Caribbean Archaeology</i> .	<a href="https://repository.si.edu/handle/10088/106137">https://repository.si.edu/handle/10088/106137</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
64	Journal article/note	English	Conservation and distribution	A study using systematic line transects revealed that manatee distribution within the ALS is non-uniform.	Renteria, I. D., Serrano, A., & Rojas, G. S. (2012). Distribution of the Antillean manatee ( <i>Trichechus manatus manatus</i> ) in the Alvarado Lagoon System (Veracruz, Mexico). <i>Ciencias marinas</i> , 38(2), 459-465.	<a href="https://dialnet.unirioja.es/servlet/articulo?codigo=4372628">https://dialnet.unirioja.es/servlet/articulo?codigo=4372628</a>	N/A
65	Book chapter	English	Ecology	This chapter seeks to compile and update crucial information on the manatee; focusing on distribution; spatial ecology; feeding habits; genetics; and health.	de Meirelles, A. C., Carvalho, V. L., & Marmontel, M. (2018). <i>West Indian manatee Trichechus manatus in South America: distribution, ecology and health assessment</i> . In <i>Advances in Marine Vertebrate Research in Latin America</i> (pp. 263-291). Springer, Cham.	<a href="https://www.researchgate.net/profile/Ana-Meirelles-2/publication/319067325_West_Indian_Manatee_Trichechus_manatus_in_South_America_Distribution_Ecology_and_Health_Assessment/links/616754a53851f959940035ee/West-Indian-Manatee-Trichechus-manatus-in-South-America-Distribution-Ecology-and-Health-Assessment.pdf">https://www.researchgate.net/profile/Ana-Meirelles-2/publication/319067325_West_Indian_Manatee_Trichechus_manatus_in_South_America_Distribution_Ecology_and_Health_Assessment/links/616754a53851f959940035ee/West-Indian-Manatee-Trichechus-manatus-in-South-America-Distribution-Ecology-and-Health-Assessment.pdf</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
66	Journal article	English	Evolutionary history	This study reveals that the first split within <i>Trichechus</i> occurred in the Late Miocene; followed by diversification in the Plio-Pleistocene; and identifies positive selection on a specific gene in the Amazonian manatee associated with oxidative phosphorylation.	de Souza, É. M. S., Freitas, L., da Silva Ramos, E. K., Selleghin-Veiga, G., Rachid-Ribeiro, M. C., Silva, F. A., ... & Nery, M. F. (2021). The evolutionary history of manatees told by their mitogenomes. <i>Scientific Reports</i> , 11(1), 3564.	<a href="https://www.nature.com/articles/s41598-021-82390-2">https://www.nature.com/articles/s41598-021-82390-2</a>	<a href="https://doi.org/10.1038/s41598-021-82390-2">https://doi.org/10.1038/s41598-021-82390-2</a>
67	Journal article/note	English	Conservation	Interview surveys and motorboat surveys were conducted in French Guiana to assess the distribution; habitats; and conservation status of the West Indian manatee.	De Thoisy, B., Spiegelberger, T., Rousseau, S., Talvy, G., Vogel, I., & Vie, J. C. (2003). Distribution, habitat, and conservation status of the West Indian manatee <i>Trichechus manatus</i> in French Guiana. <i>Oryx</i> , 37(4), 431-436.	<a href="http://kwata.net/medias/images/upload/PU/BLI_de%20Thoisy_2003_Oryx.pdf">http://kwata.net/medias/images/upload/PU/BLI_de%20Thoisy_2003_Oryx.pdf</a>	<a href="https://doi.org/10.1017/S0030605303000796">https://doi.org/10.1017/S0030605303000796</a>
68	Journal article	English	Archaeological	Findings from six years of excavation at the En Bas Saline site in Haiti.	Deagan, K. (2004). Reconsidering Taino social dynamics after Spanish conquest: gender and class in culture contact studies. <i>American Antiquity</i> , 69(4), 597-626.	<a href="https://www.cambridge.org/core/journals/american-antiquity/article/reconsidering-taino-social-dynamics-after-spanish-conquest-gender-and-class-in-culture-">https://www.cambridge.org/core/journals/american-antiquity/article/reconsidering-taino-social-dynamics-after-spanish-conquest-gender-and-class-in-culture-</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
						<a href="https://www.dcbd.nl/sites/default/files/documents/Manatee2019%2016538701.pdf">contact-studies/E45B974112D69A4D8232BC78C94BED95</a>	
69	Journal article	English	Distribution	A compilation and review of records for the Dutch Leeward islands and the central Venezuelan coast.	Debrot, A. O., Eybrecht, L., Dawson, E., Cremer, J., & Stelten, R. (2020). The Antillean manatee ( <i>Trichechus manatus manatus</i> ) in the southern Caribbean: A compilation and review of records for the Dutch Leeward islands and the central Venezuelan coast. <i>Marine Mammal Science</i> , 36(1), 324-333.	<a href="https://www.dcbd.nl/sites/default/files/documents/Manatee2019%2016538701.pdf">https://www.dcbd.nl/sites/default/files/documents/Manatee2019%2016538701.pdf</a>	<a href="https://doi.org/10.1111/mmss.12636">https://doi.org/10.1111/mmss.12636</a>
70	Journal article/note	English	Historical ecology	The study discusses the historical significance of manatee and crocodile records in the Dutch Windward and Leeward Islands.	Debrot, A. O., Van Buurt, G., Caballero, A., & Antczak, A. A. (2006). A historical review of records of the West Indian manatee and the American crocodile in the Dutch Antilles. <i>Caribbean Journal of Science</i> , 42(2), 272-280.	<a href="https://www.dcbd.nl/sites/default/files/documents/Debrot%20et%20al%20manatee%202006_0.pdf">https://www.dcbd.nl/sites/default/files/documents/Debrot%20et%20al%20manatee%202006_0.pdf</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
71	Journal article	English	Ecology	Identifying present and historical coastal-lowland hotspots for the Antillean manatee ( <i>Trichechus manatus manatus</i> ) along the Caribbean coast of Colombia through underused incidental records.	Debrot, D., Caicedo-Herrera, D., Gomez-Camelo, I., Moná-Sanabria, Y., Rosso, C., van der Wal, J. T., & Mignucci-Giannoni, A. A. (2023). The Antillean manatee ( <i>Trichechus manatus manatus</i> ) along the Caribbean coast of Colombia: underused incidental records help identify present and past coastal-lowland hotspots. <i>Marine Mammal Science</i> , 39(1), 322-337.	<a href="https://library.wur.nl/WebQuery/wurpubs/fulltext/576515">https://library.wur.nl/WebQuery/wurpubs/fulltext/576515</a>	<a href="https://doi.org/10.1111/mms.12972">https://doi.org/10.1111/mms.12972</a>
72	Journal article/comment	English	Ecology	Comment on Julio Baisre's "Setting a Baseline for Caribbean Fisheries"	deFrance, S. D. (2010). Valuing the Archaeological Record of Human Impacts on Caribbean Fisheries. Comment on Julio Baisre's "Setting a Baseline for Caribbean Fisheries". <i>Journal of Island &amp; Coastal Archaeology</i> , 5(1), 156-158.	<a href="https://www.tandfonline.com/doi/full/10.1080/15564891003655758">https://www.tandfonline.com/doi/full/10.1080/15564891003655758</a>	<a href="https://doi.org/10.1080/15564891003655758">https://doi.org/10.1080/15564891003655758</a>
73	No peer-reviewed articles	English	Newsletter	Sirenews	Del Cid- Alvarez, M.R.(2020). For the first time, the Dominican Republic will release rehabilitated manatees. <i>Sirenews</i> , 72: 20-22.	<a href="https://mission.cmaq.uarum.org/app/uploads/2020/12/Sirenews-72-NOV2020.pdf">https://mission.cmaq.uarum.org/app/uploads/2020/12/Sirenews-72-NOV2020.pdf</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
74	Doctoral dissertation	English	Conservation	The study reveals a need for collaborative efforts between the Dominican Republic and Haiti to estimate population size; address fisheries-related mortality; and implement conservation actions.	Domínguez Tejo, H. M. (2016). <i>Distribution and conservation of the Antillean manatee in Hispaniola</i> (Doctoral dissertation).	<a href="https://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/12872/DomínguezTejo_duke_0066D_13644.pdf?sequence=1">https://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/12872/DomínguezTejo_duke_0066D_13644.pdf?sequence=1</a>	N/A
75	Journal article/note	English	Conservation	The study reveals a need for collaborative efforts between the Dominican Republic and Haiti to estimate population size; address fisheries-related mortality; and implement conservation actions.	Domínguez-Tejo, H. M. D. (2021). History and conservation status of the Antillean manatee <i>Trichechus manatus</i> in Hispaniola. <i>Oryx</i> , 55(2), 284-293.	<a href="https://www.cambridge.org/core/journals/oryx/article/history-and-conservation-status-of-the-antillean-manatee-trichechus-manatus-in-hispaniola/F445AFA30A83389FB4557864BF07463B">https://www.cambridge.org/core/journals/oryx/article/history-and-conservation-status-of-the-antillean-manatee-trichechus-manatus-in-hispaniola/F445AFA30A83389FB4557864BF07463B</a>	<a href="https://doi.org/10.1017/S0030605319000140">https://doi.org/10.1017/S0030605319000140</a>
76	Journal article	English	Export	The exploitation history of the Amazonian manatee.	Domning, D. P. (1982). Commercial exploitation of manatees <i>Trichechus</i> in Brazil c. 1785–1973. <i>Biological Conservation</i> , 22(2), 101-126.	<a href="https://www.sciencedirect.com/science/article/pii/000632078290009X">https://www.sciencedirect.com/science/article/pii/000632078290009X</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
77	Museum catalouge	English	Art	Arte del Mar explores the interconnected history of Caribbean indigenous peoples; emphasizing the region's diverse cultural exchange rooted in its relationship with the sea.	Doyle, J. A. (2020). <i>Arte del Mar: Art of the Early Caribbean</i> . Metropolitan Museum of Art.	N/A	N/A
78	Journal article/note	English	Conser vation and distribu tion	Belize hosts a significant population of endangered Antillean manatees; urging prioritized conservation efforts for both manatees and their crucial habitat at Turneffe Atoll.	Edwards, H. H., Stone, S. B., Hines, E. M., Gomez, N. A., & Winning, B. E. (2014). Documenting manatee ( <i>Trichechus manatus manatus</i> ) presence at Turneffe Atoll, Belize, Central America and its conservation significance. <i>Caribbean Journal of Science</i> , 48(1), 71-75.	N/A	<a href="https://doi.org/10.18475/cjcs.v48i1.a12">https://doi.org/10.18475/cjcs.v48i1.a12</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
79	Book	English	Zooarchaeological	The volume is focused on Mesoamerica; and offers current research on zooarchaeology; spanning diverse cultures and time periods from the earliest human occupation to recent times; providing insights into the domestic and ritual use of animals in the region.	Emery, K. F., & Gotz, C. M. (Eds.). (2013). <i>The archaeology of Mesoamerican animals</i> (Vol. 1). Lockwood Press.	N/A	N/A
80	Book	Spanish	Historical	The essay analyzes key issues—epistemological; methodological; and theoretical—such as the paradigm of normative cultural history; the problem of units of analysis; and the concept of "the Taíno".	Etayo, D. A. T. (1994). Original Taínos: mitos y realidades de un pueblo sin rostro. Rives, 28.	<a href="http://casamericalatina.pt/wp-content/uploads/2014/03/Taino-Mitos-y-Realidades-Cuba.pdf">http://casamericalatina.pt/wp-content/uploads/2014/03/Taino-Mitos-y-Realidades-Cuba.pdf</a>	N/A



Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
81	Bulletboard note	English	Food	The Taino; the largest pre-Columbian indigenous population in the Antilles; thrived in the Caribbean with a diverse diet supported by innovative agricultural techniques; capitalizing on the proximity and biodiversity of the Caribbean Sea as a crucial food source.	Fajardo, E. R., & Paredes, C. M. S. The Taino Diet: Delicacies from a Lost Paradise.	N/A	N/A
82	Book	English	Archaeological	This volume challenges conventional interpretations of ancient Maya art and culture by emphasizing the mythic power of the sea as a central theme in their history; drawing on recent archaeological discoveries and advancements in deciphering Maya glyphs.	Finamore, D., & Houston, S. D. (2010). Fiery pool: the Maya and the mythic sea.	N/A	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
83	Journal article	English	Archaeological	This review challenges the timeline of Pre-Columbian Caribbean colonization; emphasizing waves from South America and highlighting interconnected societies starting around 2500 cal yr BP.	Fitzpatrick, S. M. (2015). The pre-Columbian Caribbean: Colonization, population dispersal, and island adaptations. <i>PaleoAmerica</i> , 1(4), 305-331.	<a href="https://www.tandfonline.com/doi/abs/10.1179/2055557115Y.000000010">https://www.tandfonline.com/doi/abs/10.1179/2055557115Y.000000010</a>	<a href="http://dx.doi.org/10.1179/2055557115Y.000000010">http://dx.doi.org/10.1179/2055557115Y.000000010</a>
84	Book chapter	English	Historical ecology	The authors aim to understand the extent of loss in marine environments and make informed decisions about conservation efforts.	Fitzpatrick, S. M., Keegan, W. F., & Sealey, K. S. (2008). Human impacts on marine environments in the West Indies during the Middle to Late Holocene. <i>Human impacts on ancient marine ecosystems: a global perspective</i> , 147-164.	N/A	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
85	Book	English	Biology	This book explores the medicine and treatment of South American wild animals; covering diseases; biology; and classification by family and genus with English and Spanish names. Illustrated and with references; it includes contributions from regional experts.	Fowler, M. E., & Cubas, Z. S. (2001). <i>Biology, medicine, and surgery of South American wild animals. Biology, Medicine, and Surgery of South American Wild Animals.</i>	N/A	N/A
86	Book	English	Ecology	This book critically examines ecologically unequal exchange (EUE) through a historical and comparative lens.	Frey, R. S., Gellert, P. K., & Dahms, H. F. (Eds.). (2018). <i>Ecologically unequal exchange: Environmental injustice in comparative and historical perspective.</i> Springer.	N/A	N/A
87	Journal article	English	DNA	The population genetic structure and phylogeography of the West Indian manatee were examined through mitochondrial DNA control region sequences across eight locations in	Garcia-Rodriguez, A. I., Bowen, B. W., Domning, D., Mignucci-Giannoni, A. A., Marmontel, M., Montoya-Ospina, R. A., ... & McGuire, P. M. (1998). Phylogeography of the West Indian manatee ( <i>Trichechus manatus</i> ): how many populations and how many taxa?. <i>Molecular Ecology</i> , 7(9), 1137-1149.	<a href="https://onlinelibrary.wiley.com/doi/abs/10.1046/j.1365-294x.1998.00430.x">https://onlinelibrary.wiley.com/doi/abs/10.1046/j.1365-294x.1998.00430.x</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
				the western Atlantic.			
88	Book	English	Vocabulary	An outline dictionary of Maya glyphs; with a concordance and analysis of their relationships.	Gates, W. (1978). An outline dictionary of Maya glyphs, with a concordance and analysis of their relationships: with the author's "Glyph studies" reprinted from the Maya Society quarterly, Courier Corporation.	N/A	N/A
89	Journal article	English	Conservation	Initially overlooked in early U.S. history; the Florida manatee faced adversity from humans. Once listed as endangered; increased scientific study and educational initiatives transformed public perception; turning the manatee from a target of cruelty to a subject of admiration among scientists; policymakers; and the public; ultimately enhancing its	Goedeke, T. (2004). In the eye of the beholder: Changing social perceptions of the Florida manatee. <i>Society &amp; Animals</i> , 12(2), 99-116.	<a href="https://brill.com/view/journals/soan/12/2/article-p99_1.xml">https://brill.com/view/journals/soan/12/2/article-p99_1.xml</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
				chances for protection.			
90	Journal article/note	English	Conservation	According to surveys conducted between 2005-2007 the Antillean manatee faces habitat loss due to rapid population growth and land cover changes on the North Coast	Gonzalez-Socoloske D, Taylor CR, Rendon Thompson OR. 2011 Distribution and conservation status of Antillean manatees ( <i>T. m. manatus</i> ) in Honduras. <i>Latin American J. of Aquatic Mammals</i> 9(2): 123-131.	<a href="https://lajamjournal.org/index.php/lajam/article/view/362">https://lajamjournal.org/index.php/lajam/article/view/362</a>	<a href="https://doi.org/10.5597/lajam00176">https://doi.org/10.5597/lajam00176</a>
91	MSc Thesis	English	Conservation	This study addresses challenges in manatee conservation; focusing on hotspot identification; manatee detection in turbid waters; and fostering regional collaboration.	Gonzalez-Socoloske, D. (2007). <i>Status and distribution of manatees in Honduras and the use of sidescan sonar</i> . [MS Thesis] Loma Linda University	<a href="https://scholarsrepository.llu.edu/etd/578/">https://scholarsrepository.llu.edu/etd/578/</a>	N/A
92	Book chapter	English	Zooarchaeological	The chapter explores zooarchaeological data on aquatic mammal exploitation in central and southeastern Mesoamerica.	Götz, C. M., Azúa, R. V., & Galicia, B. R. (2014). <i>The archaeology of the interaction between marine mammals and humans in central and southeastern Mesoamerica</i> . In Neotropical and Caribbean Aquatic Mammals: Perspectives from Archaeology	<a href="https://www.researchgate.net/profile/Franco-Zangrando/publication/281150537_Human_predation_on_pinnipeds_in_the_Beagle_Channel/links/55d8e20208aed6a199a89041/Human-predation-">https://www.researchgate.net/profile/Franco-Zangrando/publication/281150537_Human_predation_on_pinnipeds_in_the_Beagle_Channel/links/55d8e20208aed6a199a89041/Human-predation-</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
					and Conservation Biology, 25-58.	<a href="#">on-pinnipeds-in-the-Beagle-Channel.pdf#page=53</a>	
93	Journal article	English	Zoarchaeological	The paper discusses the evolution of research practices; the impact of European interest in the Tainos; and the recent surge in archaeological excavations.	Grouard, S. (2010). Caribbean archaeozoology.	<a href="https://hal.science/hal-03527370/">https://hal.science/hal-03527370/</a>	N/A
94	PhD Thesis	English	Historical	The thesis highlights the global fascination with three prominent beings: European mermaids; and African figures Mami Wata and Yemaya.	Guzman, F. (2018). <i>Maidens of the Sea: Exploring the Histories of Mermaids, Mami Wata and Yemaya</i> (Doctoral dissertation, faculty of English in partial fulfillment of the requirements for the degree of Master of Arts, Mercy College, New York).	<a href="https://franchescaguzman.com/images/maidens-of-the-sea.pdf">https://franchescaguzman.com/images/maidens-of-the-sea.pdf</a>	N/A
95	Journal article/note	English	Conservation and distribution	Results from a 12-month study using side-scan sonar in the San San Pond Sak wetland in western Panama.	Guzman, H. M., & Condit, R. (2017). Abundance of manatees in Panama estimated from side-scan sonar. <i>Wildlife Society Bulletin</i> , 41(3), 556-565.	N/A	<a href="https://doi.org/10.1002/wsb.793">https://doi.org/10.1002/wsb.793</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
96	Journal article/note	English	Conservation and distribution	The paper discusses the presence of Antillean manatees in the Eastern Pacific Ocean; specifically in the Panama Canal area.	Guzman, H. M., & Real, C. K. (2022). Have Antillean manatees ( <i>Trichechus manatusmanatus</i> ) entered the Eastern Pacific Ocean? <i>Marine Mammal Science</i> , 1–7.	<a href="https://onlinelibrary.wiley.com/doi/epdf/10.1111/mms.12950">https://onlinelibrary.wiley.com/doi/epdf/10.1111/mms.12950</a>	<a href="https://doi.org/10.1111/mms.12950">https://doi.org/10.1111/mms.12950</a>
97	Journal article	English	Historical	The documented historical practice of turtle fishing in the Caribbean.	Harris, L. B. (2020). Maritime cultural encounters and consumerism of turtles and manatees: An environmental history of the Caribbean. <i>International Journal of Maritime History</i> , 32(4), 789-807.	<a href="https://journals.sagepub.com/doi/abs/10.1177/0843871420973669">https://journals.sagepub.com/doi/abs/10.1177/0843871420973669</a>	<a href="https://doi.org/10.1177/0843871420973669">https://doi.org/10.1177/0843871420973669</a>
98	Partial PhD Thesis	English	Archaeological	This dissertation focuses on the Taíno peoples; Jamaica's indigenous population largely eradicated by Spanish colonization in the 16 <sup>th</sup> century; offering insights from archaeological excavations at the Taíno village of Maima in 2014 and 2015.	Henry, C. S. (2018). <i>Late pre-contact era Taíno subsistence economy and diet: Zooarchaeological perspectives from Maima</i> . [phd thesis]	<a href="https://summit.sfu.ca/item/17981">https://summit.sfu.ca/item/17981</a>	N/A
99	Dissertation	Spanish	Archaeological	This dissertation; part of the NEXUS	Herrera Malatesta, E. (2018). <i>Una isla, dos mundos: estudio</i>	<a href="https://scholarlypublications.universiteitlei">https://scholarlypublications.universiteitlei</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
				1492 project; focuses on studying the transformation of the indigenous to colonial landscape on the island of Hayti/La Española; particularly in the coastal area of the province of Montecristi in the northwest of the present Dominican Republic.	<i>arqueológico sobre el paisaje indígena de Haytí y su transformación al paisaje colonial de La Española (1200-1550)</i> , [dissertation]Leiden University.	<a href="https://den.nl/access/item%3A2951242/download">den.nl/access/item%3A2951242/download</a>	
100	Journal article	Spanish	DNA	This analysis aimed to examine the mitochondrial DNA haplotype composition of manatees ( <i>T. manatus</i> ) in the Cuban archipelago.	Hernández Martínez, D., Álvarez-Alemán, A., Bonde, R. K., Powell, J. A., & García-Machado, E. (2013). Diversidad haplotípica en el manatí <i>Trichechus manatus</i> en Cuba: Resultados preliminares.	<a href="https://aquadocs.org/bitstream/handle/1834/5252/%289%29980.pdf?sequence=1&amp;Allowed=y">https://aquadocs.org/bitstream/handle/1834/5252/%289%29980.pdf?sequence=1&amp;Allowed=y</a>	N/A
101	Book	English	Archaeological	This book presents the pre-colonial history of Saba.	Hofman, C. L., & Hoogland, M. L. P. (2016). <i>Saba's first inhabitants: A story of 3300 years of Amerindian occupation prior to European contact (1800 BC-AD 1492)</i> . Sidestone Press.	<a href="https://www.sidestone.com/en/stories/saba-s-first-inhabitants">Saba's first inhabitants (sidestone.com)</a>	N/A



Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
102	Book	English	Archaeological	The book explores themes such as mobility; exchange; culture contact; and settlement in the circum-Caribbean and Amazonian region.	Hofman, C. L., & van Duijvenbode, A. (Eds.). (2011). <i>Communities in contact: essays in archaeology, Ethnohistory &amp; Ethnography of the Amerindian Circum-Caribbean</i> . Sidestone Press.	N/A	N/A
103	Journal article	English	Archaeological	This paper delves into the presence of a Taino site in the northern Lesser Antilles; exploring hypotheses regarding the mechanisms behind this expansion during late pre-Columbian times.	Hoogland, M. C. P. L., & Hofman, C. (1993). Kelbey's Ridge 2, A 14 <sup>th</sup> Century Taino Settlement on Saba, Netherlands Antilles. <i>Analecta Praehistorica Leidensia</i> 26  <i>The end of our third decade: Papers written on the occasion of the 30<sup>th</sup> anniversary of the Institute of prehistory, volume II, 26</i> , 163-181.	N/A	N/A
104	Journal article	English	Archaeological	This study presents various hypotheses to elucidate the Taino expansion process towards the Lesser Antilles.	Hoogland, M. L., & Hofman, C. L. (1999). Expansion of the Taino cacicazgos towards the Lesser Antilles. <i>Journal de la Société des Américanistes</i> , 93-113.	<a href="https://www.persee.fr/doc/jsa_0037-9174_1999_num_85_1_1731">https://www.persee.fr/doc/jsa_0037-9174_1999_num_85_1_1731</a>	<a href="https://doi.org/10.3406/jsa.1999.1731">https://doi.org/10.3406/jsa.1999.1731</a>
105	PhD Thesis	English	Decolonialism	This dissertation explores the precarious state of Puerto Rico's food systems.	James'Pilikai'Fisk, J. (2022). <i>Speaking of Abundance: Taino Ecolinguistic Ontologies, Pre-colonial Biocultural Systems, and Decolonial Pathways to Food and Material Sovereignty in Puerto Rico</i> , [phd thesis]University of Hawai'i at Manoa.	<a href="https://scholarspace.manoa.hawaii.edu/items/6405e89a-1055-45a5-91ce-218855791eae">https://scholarspace.manoa.hawaii.edu/items/6405e89a-1055-45a5-91ce-218855791eae</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
106	Journal article/note	English	Conservation	This study presents an assessment of the conservation status of the West Indian manatee ( <i>Trichechus manatus</i> ) in Nicaragua.	Jiménez, I. (2002). Heavy poaching in prime habitat: the conservation status of the West Indian manatee in Nicaragua. <i>Oryx</i> , 36(3), 272-278.	<a href="https://repositorio.una.ac.cr/bitstream/handle/11056/23504/10.1017@s0030605302000492.pdf?sequence=1">https://repositorio.una.ac.cr/bitstream/handle/11056/23504/10.1017@s0030605302000492.pdf?sequence=1</a>	<a href="https://doi.org/10.1017/S0030605302000492">https://doi.org/10.1017/S0030605302000492</a>
107	Journal article/note	English	Habitat	Examination of the link between habitat variables and the utilization of tropical watercourses by the West Indian manatee.	Jiménez, I. (2005). Development of predictive models to explain the distribution of the West Indian manatee <i>Trichechus manatus</i> in tropical watercourses. <i>Biological Conservation</i> , 125(4), 491-503.	<a href="https://repositorio.una.ac.cr/bitstream/handle/11056/23112/10.1016@j.biocon.2005.04.012.pdf?sequence=1">https://repositorio.una.ac.cr/bitstream/handle/11056/23112/10.1016@j.biocon.2005.04.012.pdf?sequence=1</a>	<a href="https://doi.org/10.1016/j.biocon.2005.04.012">https://doi.org/10.1016/j.biocon.2005.04.012</a>
108	Book	Spanish	Conservation	This book delves into the ecology and conservation challenges faced by the West Indian manatee ( <i>Trichechus manatus</i> ) in the San Juan River and Tortuguero canals (Nicaragua-Costa Rica).	Pérez, I. J. (2003). <i>Los manatíes del río San Juan y los Canales de Tortuguero: ecología y conservación</i> . Araucaria.	<a href="https://www.academia.edu/download/41156094/Manatíes_Rio_San_Juan_2000.pdf">https://www.academia.edu/download/41156094/Manatíes_Rio_San_Juan_2000.pdf</a>	N/A
109	Book	English	Archaeological	The book offers a comprehensive synthesis of 55 years of archaeological	Keegan, W. F. and C. L. Hofman (2016). <i>The Caribbean before Columbus</i> , Oxford University Press.	N/A	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
				research on the region.			
110	Article	English	Zooarchaeological	The paper focuses on the ritual use of manatee rib implements in Taino culture; exploring their beliefs about death and the transition to new life.	Khalsa, S. M. (2014). Taino Ritual Objects: Material and Meaning.	<a href="https://www.academia.edu/download/35905159/KhalsaTainoBoneImplements2014.pdf">https://www.academia.edu/download/35905159/KhalsaTainoBoneImplements2014.pdf</a>	N/A
111	Report paper	English	Conservation	As part of the Action Plan for the Conservation of Marine Mammals in the Wider Caribbean Region; the SPAW-RAC initiated the "Manatee Bycatch Pilot Project" to study the threat of bycatch and vessel strikes on the West Indian manatee.	Kiszka, J. (2014). "Bycatch assessment of the West Indian manatee ( <i>Trichechus manatus</i> ) and other megafauna in artisanal fisheries of the Caribbean." Report to SPAW-RAC 41.	<a href="https://www.car-spaw-rac.org/IMG/pdf/manateebycatch_finalversion.pdf">https://www.car-spaw-rac.org/IMG/pdf/manateebycatch_finalversion.pdf</a>	N/A
112	Journal article/note	English	Conservation	The status of the manatee in Honduras was assessed through interviews; wildlife inspections; and field observations.	Klein, E. H. (1979). Review of the status of manatee ( <i>Trichechus manatus</i> ) in Honduras, Central America. <i>Ceiba</i> , 23(1), 21-28.	<a href="https://revistas.zamorano.edu/index.php/CETIBA/article/view/890">https://revistas.zamorano.edu/index.php/CETIBA/article/view/890</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
113	Book	French	Historical	New Journey to the Islands of America: Featuring the natural history of these countries; the origin; customs; religion; and government of the ancient and modern inhabitants; in two volumes.	Labat, J.-B. (1724). <i>Nouveau voyage aux isles de l'Amerique: contenant l'histoire naturelle de ces pays, l'origine, les moeurs, la religion &amp; le gouvernement des habitans anciens &amp; modernes...</i> [en II volumes], Husson.	N/A	N/A
114	Journal article/note	English	Distribution	This study aims to document manatee distribution in the Drowned Cayes; Swallow Caye; and Gallows Reef.	LaCommare, K. S., Self-Sullivan, C., & Brault, S. (2008). Distribution and habitat use of Antillean manatees ( <i>Trichechus manatus manatus</i> ) in the Drowned Cayes area of Belize, Central America. <i>Aquatic Mammals</i> , 34(1), 35.	N/A	<a href="https://doi.org/10.1578/AM.34.1.2008.35">https://doi.org/10.1578/AM.34.1.2008.35</a>
115	Book	English	Log	Landa's Account of Yucatán	Landa, D. D., & Tozzer, A. M. (1941). <i>Landa's Relacion de las cosas de Yucatán: a translation. (No Title)</i> .	N/A	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
116	Journal article/note	English	Conservation	Bahía de la Ascension is an important area for manatees in the Mexican Caribbean and requires special attention for conservation.	Landero, M., De Los Ángeles Liceaga-Correa, M., & Morales-Vela, B. (2014). Ecological distribution of manatee ( <i>Trichechus manatus manatus</i> ) in Bahía de la Ascensión, Mexico. <i>Marine Mammal Science</i> , 30(4), 1581-1588.	<a href="https://www.researchgate.net/profile/Benjamin-Morales-Vela/publication/261329506_Ecological_distribution_of_manatee_Trichechus_manatus_in_Bahia_de_la_Ascension_Mexico/links/5a763008aca2722e4def2f61/Ecological-distribution-of-manatee-Trichechus-manatus-manatus-in-Bahia-de-la-Ascension-Mexico.pdf">https://www.researchgate.net/profile/Benjamin-Morales-Vela/publication/261329506_Ecological_distribution_of_manatee_Trichechus_manatus_in_Bahia_de_la_Ascension_Mexico/links/5a763008aca2722e4def2f61/Ecological-distribution-of-manatee-Trichechus-manatus-manatus-in-Bahia-de-la-Ascension-Mexico.pdf</a>	<a href="https://doi.org/10.1111/mms.12127">https://doi.org/10.1111/mms.12127</a>
117	Journal article	English	Log	Bartolomé de las Casas conveys Cristóbal Colón's experiences on his first voyage to the Indies, describing ambiguous encounters with "serenas" that may or may not have been manatees. The passage emphasizes the theme of metamorphosis; highlighting the inherent instability	Le Guin, E. (2021). Metamorphosis and the Sirena. <i>Journal of Musicological Research</i> , 40(3), 250-252.	<a href="https://www.tandfonline.com/doi/full/10.1080/01411896.2021.1949308">https://www.tandfonline.com/doi/full/10.1080/01411896.2021.1949308</a>	<a href="https://doi.org/10.1080/01411896.2021.1949308">https://doi.org/10.1080/01411896.2021.1949308</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
				and uncertainty in the narrative.			
118	Doctoral dissertation	English	Zooarchaeological	This study explores the zooarchaeological evidence from the pre-Columbian Taíno site of En Bas Saline in Haiti.	LeFebvre, M. J. (2015). <i>Animals, food, and social life among the pre-Columbian taíno of En Bas Saline, Hispaniola</i> (Doctoral dissertation, University of Florida).	<a href="https://search.proquest.com/openview/d5445bf3e56259bd7b49f60f008d3880/1?pq-origsite=qscholar&amp;cbl=18750">https://search.proquest.com/openview/d5445bf3e56259bd7b49f60f008d3880/1?pq-origsite=qscholar&amp;cbl=18750</a>	N/A
119	Book chapter	English	Conservation and distribution	A comprehensive overview of the distribution; status; and habitat associations of the West Indian manatee ( <i>Trichechus manatus</i> ).	Lefebvre, L. W., Marmontel, M., Reid, J. P., Rathbun, G. B., & Domning, D. P. (2001). <i>Status and biogeography of the West Indian manatee</i> . In <i>Biogeography of the West Indies</i> (pp. 425-474). CRC press.	N/A	N/A
120	No peer-reviewed articles	English	Biology	Manatees as a naturalistic biological mosquito control method.	MacLaren, J. P. (1967). Manatees as a naturalistic biological mosquito control method. <i>Mosquito News</i> , 27, 387-393.	<a href="https://archive.org/details/cbarchive_115680_manateesasanaturalisticbiologi1967">https://archive.org/details/cbarchive_115680_manateesasanaturalisticbiologi1967</a>	N/A
121	Book	English	Environmental history	A volume that offers theoretical and methodological considerations accessible to both social and natural scientists.	Máñez, K. S., & Poulsen, B. (Eds.). (2016). <i>Perspectives on Oceans Past</i> . Springer.	N/A	<a href="http://dx.doi.org/10.1007/978-94-017-7496-3">http://dx.doi.org/10.1007/978-94-017-7496-3</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
122	Journal article	English	Distribution	The analysis of age-specific data from 1976 to 1991 for Florida manatees.	Marmontel, M., Humphrey, S. R., & O'Shea, T. J. (1997). Population Viability Analysis of the Florida Manatee ( <i>Trichechus manatus latirostris</i> ), 1976–1991: Análisis de Viabilidad Poblacional del Manatí de Florida ( <i>Trichechus manatus latirostris</i> ), 1976–1991. <i>Conservation biology</i> , 11(2), 467-481.	<a href="https://conbio.onlinelibrary.wiley.com/doi/abs/10.1046/j.1523-1739.1997.96019.x">https://conbio.onlinelibrary.wiley.com/doi/abs/10.1046/j.1523-1739.1997.96019.x</a>	N/A
123	UN Environmental programme	English	Conservation	The West Indian Manatee in the Caribbean & North; South Atlantic	Marmontel, M. (1996) The west indian manatee in the caribbean and the southern south atlantic, for the United Nations Environmental Programme, Water Branch Nairobi, Kenya 1996.	<a href="https://wedocs.unep.org/20.500.11822/8292">https://wedocs.unep.org/20.500.11822/8292</a>	N/A
124	Book	English	Ethology	This series aims to offer the latest ethological insights into major marine mammal groups.	Marsh, H. (Ed.). (2022). <i>Ethology and Behavioral Ecology of Sirenia</i> . Cham: Springer.	N/A	N/A
125	Journal article	English	Zooarchaeological	This paper presents archaeological evidence of animal use at Mayapán.	Masson, M. A., & Lope, C. P. (2008). Animal use at the Postclassic Maya center of Mayapán. <i>Quaternary International</i> , 191(1), 170-183.	<a href="https://www.sciencedirect.com/science/article/pii/S1040618208000232">https://www.sciencedirect.com/science/article/pii/S1040618208000232</a>	<a href="https://doi.org/10.1016/j.quaint.2008.02.002">https://doi.org/10.1016/j.quaint.2008.02.002</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
126	Journal article	English	Archaeological	The text discusses the archaeological examination of domestic adaptation at the 16 <sup>th</sup> -century Spanish colony of Puerto Real.	McEwan, B. G. (1986). Domestic Adaptation at Puerto Real, Haiti. <i>Historical Archaeology</i> , 20(1), 44-49.	<a href="https://link.springer.com/article/10.1007/BF03374060">https://link.springer.com/article/10.1007/BF03374060</a>	N/A
127	PhD Thesis	English	Archaeological	Phd thesis on ideographic expression in the Precolumbian Caribbean	McGinnis, S. (1997) <i>Ideographic Expression in the Precolumbian Caribbean</i> . [Ph.D. dissertation], Department of Anthropology, University of Texas at Austin.	N/A	N/A
128	Journal article	English	Archaeological	The study explores the prehistoric utilization of the manatee in the Maya and circum-Caribbean regions.	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and circum Caribbean areas. <i>World Archaeology</i> , 16, 337-353.	<a href="https://www.tandfonline.com/doi/abs/10.1080/00438243.1985.9979939">https://www.tandfonline.com/doi/abs/10.1080/00438243.1985.9979939</a>	<a href="https://doi.org/10.1080/00438243.1985.9979939">https://doi.org/10.1080/00438243.1985.9979939</a>
129	Journal article	English	Archaeological	Investigations on Moho Cay; a prehistoric Maya island community.	McKillop, H. I. (1984). Prehistoric Maya reliance on marine resources: Analysis of a midden from Moho Cay, Belize. <i>Journal of Field Archaeology</i> , 11(1), 25-35.	<a href="https://www.tandfonline.com/doi/abs/10.1179/jfa.1984.11.1.25">https://www.tandfonline.com/doi/abs/10.1179/jfa.1984.11.1.25</a>	N/A
130	Journal article	English	Ontology	Hunting practices	McNiven, I. J. (2010). Navigating the human-animal divide: marine mammal hunters and rituals of sensory allurements. <i>World Archaeology</i> , 42(2), 215-230.	<a href="https://www.tandfonline.com/doi/abs/10.1080/00438241003672849?casa_token=n4SnmHJySEQAAAAA:UJGs3EpsPFSWX0SJBURlOooBdbfJjwNqJ8mT">https://www.tandfonline.com/doi/abs/10.1080/00438241003672849?casa_token=n4SnmHJySEQAAAAA:UJGs3EpsPFSWX0SJBURlOooBdbfJjwNqJ8mT</a>	<a href="https://doi.org/10.1080/00438241003672849">https://doi.org/10.1080/00438241003672849</a>



Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
						<a href="https://doi.org/10.1080/08893670802707946">z3qnKpp8Gmqh1o3yPTknEPN-D70iA-dJ hGdGRqZQq</a>	
131	Journal article	English	Spirituality	The article explores Taíno spirituality's depiction of the feminine as a counterpart to the masculine.	Medrano-Marra, M. (2009). Writing our way to Taíno spirituality: Finding a sense of self. <i>Journal of Poetry Therapy</i> , 22(1), 21-39.	<a href="https://www.tandfonline.com/doi/abs/10.1080/08893670802707946">https://www.tandfonline.com/doi/abs/10.1080/08893670802707946</a>	<a href="https://doi.org/10.1080/08893670802707946">https://doi.org/10.1080/08893670802707946</a>
132	MSc Thesis	English	Distribution	A zoo-geographical analysis of marine mammals in Puerto Rico; US Virgin Islands; and British Virgin Islands.	Mignucci Giannoni, A. A. (1989). <i>Zoogeography of marine mammals in Puerto Rico and the Virgin Islands</i> . [Master thesis, University of Rhode Island]. University of Rhode Island Repository	<a href="https://digitalcommons.uri.edu/masters/29/">https://digitalcommons.uri.edu/masters/29/</a>	N/A
133	Journal article	English	Conservation and distribution	The study analyzed 90 manatee strandings in Puerto Rico from 1990 to 1995.	Mignucci-Giannoni, A. A., Montoya-Ospina, R. A., Jiménez-Marrero, N. M., Rodríguez-López, M. A., Williams, Jr, E. H., & Bonde, R. K. (2000). Manatee mortality in Puerto Rico. <i>Environmental Management</i> , 25, 189-198.	<a href="https://link.springer.com/article/10.1007/s002679910015">https://link.springer.com/article/10.1007/s002679910015</a>	<a href="http://dx.doi.org/10.1007/s002679910015">http://dx.doi.org/10.1007/s002679910015</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
134	Book chapter	English	Conservation	Navassa; a small oceanic island of 5.2 km <sup>2</sup> ; has been claimed by both the United States and Haiti since the 19th century; leading to resource management challenges.	Miller, M. W., Halley, R. B., & Gleason, A. C. (2008). Reef geology and biology of Navassa Island. In <i>Coral Reefs of the USA</i> (pp. 407-433). Dordrecht: Springer Netherlands.	N/A	N/A
135	Journal article	English	Archaeological	The article examines the social dynamics of exchange networks in the Caribbean Late Ceramic Age (AD 600/800-1492).	Mol, A. A. (2011). The Gift of the «Face of the Living»: Shell faces as social valuables in the Caribbean Late Ceramic Age. <i>Journal de la société des américanistes</i> , 97(97-2), 7-43.	<a href="#">N/A</a>	<a href="https://doi.org/10.4000/jsa.11834">https://doi.org/10.4000/jsa.11834</a>
136	Journal article	English	Archaeological	The paper demonstrates how constructing a site ego-network can reveal complex intra-site relations and provide new insights into the material practices crucial for the viability and identity of a community in the late pre-colonial North-eastern Caribbean.	Mol, A. A., Hoogland, M. L., & Hofman, C. L. (2015). Remotely local: Ego-networks of late pre-colonial (AD 1000-1450) Saba, north-eastern Caribbean. <i>Journal of Archaeological Method and Theory</i> , 22, 275-305.	<a href="https://link.springer.com/article/10.1007/s10816-014-9234-7">https://link.springer.com/article/10.1007/s10816-014-9234-7</a>	<a href="http://dx.doi.org/10.1007/s10816-014-9234-7">http://dx.doi.org/10.1007/s10816-014-9234-7</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
137	Journal article/note	Spanish	Conser- vation	This investigation; conducted between April 1998 and July 2001 in Lake Maracaibo; highlights the scattered distribution of manatees and the threats they face.	Montiel-Villalobos, M.G. & Barrios-Garrido, H. 2005. Observaciones sobre la distribución y situación actual del Manati <i>Trichechus manatus</i> (Sirenia: Trichechidae) en el sistema del Lago de Maracaibo. <i>Anartia</i> . 18, 1-12.	<a href="https://www.researchgate.net/profile/Maria-Villalobos/publication/287018816_Observations_on_the_distribution_and_current_status_of_the_manatee_Trichechus_manatus_Sirenia_Trichechidae_in_the_Lake_Maracaibo_system/links/56d9e29708aee1aa5f8296a7/Observations-on-the-distribution-and-current-status-of-the-manatee-Trichechus-manatus-Sirenia-Trichechidae-in-the-Lake-Maracaibo-system.pdf?sq%5B0%5D=started_experiment_milestone&amp;origin=journalDetail">https://www.researchgate.net/profile/Maria-Villalobos/publication/287018816_Observations_on_the_distribution_and_current_status_of_the_manatee_Trichechus_manatus_Sirenia_Trichechidae_in_the_Lake_Maracaibo_system/links/56d9e29708aee1aa5f8296a7/Observations-on-the-distribution-and-current-status-of-the-manatee-Trichechus-manatus-Sirenia-Trichechidae-in-the-Lake-Maracaibo-system.pdf?sq%5B0%5D=started_experiment_milestone&amp;origin=journalDetail</a>	N/A
138	Journal article/note	English	Conser- vation	Aerial surveys conducted in January 1994; May 1994; and January 1995 revealing total manatee counts.	Morales-Vela, B., Olivera-Gómez, D., Reynolds III, J. E., & Rathbun, G. B. (2000). Distribution and habitat use by manatees ( <i>Trichechus manatus manatus</i> ) in Belize and Chetumal Bay, Mexico. <i>Biological Conservation</i> , 95(1), 67-75.	<a href="https://www.sciencedirect.com/science/article/abs/pii/S0006320700000094">https://www.sciencedirect.com/science/article/abs/pii/S0006320700000094</a>	<a href="https://doi.org/10.1016/S0006-3207(00)0009-4">https://doi.org/10.1016/S0006-3207(00)0009-4</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
139	Journal article/note	English	Conservation and distribution	The study aimed to assess the distribution and abundance of manatees along the northern and western coasts of the Yucatán Peninsula.	Morales-Vela, B., Saldívar, J. A. P., & Mignucci-Giannoni, A. A. (2003). Status of the manatee ( <i>Trichechus manatus</i> ) along the northern and western coasts of the Yucatán Peninsula, Mexico. <i>Caribbean Journal of Science</i> , 39(1), 42-49.	<a href="https://www.researchgate.net/profile/Benjamin-Morales-Vela/publication/242209101_Status_of_the_Manatee_Trichechus_manatus_along_the_Northern_and_Western_Coasts_of_the_Yucatán_Peninsula_Mexico/links/00b7d52f9221d8691e000000/Status-of-the-Manatee-Trichechus-manatus-along-the-Northern-and-Western-Coasts-of-the-Yucatán-Peninsula-Mexico.pdf">https://www.researchgate.net/profile/Benjamin-Morales-Vela/publication/242209101_Status_of_the_Manatee_Trichechus_manatus_along_the_Northern_and_Western_Coasts_of_the_Yucatán_Peninsula_Mexico/links/00b7d52f9221d8691e000000/Status-of-the-Manatee-Trichechus-manatus-along-the-Northern-and-Western-Coasts-of-the-Yucatán-Peninsula-Mexico.pdf</a>	N/A
140	Master thesis	English	Archaeological	The thesis focuses on a systematic study of Saladoid figurine-like artifacts called 'adornos' from St. Vincent.	Moravetz, I. (1999). <i>Imaging adornos: classification and iconography of Saladoid adornos from St. Vincent, West Indies</i> (Master's thesis).	<a href="https://mspace.lib.umanitoba.ca/bitstream/handle/1993/19472/Moravetz_Imaging_adornos.pdf?sequence=1">https://mspace.lib.umanitoba.ca/bitstream/handle/1993/19472/Moravetz_Imaging_adornos.pdf?sequence=1</a>	N/A
141	Journal article/note	English	Conservation	The paper highlights potential problems facing manatees in Bocas del Toro.	Mou Sue, L., Chen, D. H., Bonde, R. K., & O'Shea, T. J. (1990). Distribution and status of manatees ( <i>Trichechus manatus</i> ) in Panama. <i>Marine Mammal Science</i> , 6(3), 234-241.	N/A	<a href="https://doi.org/10.1111/j.1748-7692.1990.tb00247.x">https://doi.org/10.1111/j.1748-7692.1990.tb00247.x</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
142	Book	English	Archaeological	Through diverse lines of evidence and research questions, the book aims to provide an archaeological perspective on the long-term and varied interactions between humans and aquatic mammals across different Neotropical regions.	Muñoz, A. S., Götz, C. M., & Roca, E. R. (Eds.). (2014). <i>Neotropical and Caribbean Aquatic Mammals: Perspectives from Archaeology and Conservation Biology</i> . Nova Publishers.	N/A	N/A
143	Doctoral dissertation	English	Zooarchaeological	Using reef matrix cores from the central Belizean portion; a 1200-year record reveals fluctuations in parrotfish abundance.	Muraoka, W. (2019). <i>A 1200-Year Record of Parrotfish Teeth Suggests Centuries of Overfishing in Belize</i> (Doctoral dissertation, University of California, San Diego).	<a href="https://search.proquest.com/openview/8c2c1bf6c69a8faf5523d17075064215/1?pq-origsite=gscholar&amp;cbl=51922&amp;diss=y">https://search.proquest.com/openview/8c2c1bf6c69a8faf5523d17075064215/1?pq-origsite=gscholar&amp;cbl=51922&amp;diss=y</a>	N/A
144	Journal article	English	Conservation	An individual-based model was developed to assess the survival of the West-Indian manatee population in the Panama Canal.	Muschett, G., & Morales, N. S. (2020). Using Ecological Modelling to Assess the Long-Term Survival of the West-Indian Manatee ( <i>Trichechus manatus</i> ) in the Panama Canal. <i>Water</i> , 12(5), 1275.	<a href="https://www.mdpi.com/2073-4441/12/5/1275">https://www.mdpi.com/2073-4441/12/5/1275</a>	<a href="http://dx.doi.org/10.3390/w12051275">http://dx.doi.org/10.3390/w12051275</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
145	Journal article/note	English	Historical ecology	The study provides insights into the hunting and fishing practices of the Miskito people in eastern Nicaragua.	Nietschmann, B. (1972). Hunting and fishing focus among the Miskito Indians, eastern Nicaragua. <i>Human Ecology</i> , 1(1), 41-67.	<a href="https://deepblue.lib.umich.edu/bitstream/handle/2027.42/44475/10745_2005_article_bf01791280.pdf?sequence=1">https://deepblue.lib.umich.edu/bitstream/handle/2027.42/44475/10745_2005_article_bf01791280.pdf?sequence=1</a>	<a href="https://doi.org/10.1007/BF01791280">https://doi.org/10.1007/BF01791280</a>
146	Journal article	English	Archaeological	The study explores the historical use of hallucinogenic and narcotic plants by the Taino Indians in the West Indies.	Nieves-Rivera, Á. M., Muñoz-Vázquez, J., & Betancourt-López, C. (1995). Hallucinogens used by taíno indians in the West Indies. <i>Atenea</i> , 15(1-2), 125-139.	<a href="http://ece.uprm.edu/artssciences/atenea/Atenea-XV-1&amp;2.pdf#page=125">http://ece.uprm.edu/artssciences/atenea/Atenea-XV-1&amp;2.pdf#page=125</a>	N/A
147	Doctoral dissertation	English	Historical	The thesis aims to illustrate the significant influence of Taino language and culture on the languages of the Americas post-European invasion.	Nin, L. W. (2020). <i>Language of the voiceless: traces of taino language, food, and culture in the Americas from 1492 to the present</i> (Doctoral dissertation, Harvard University).	<a href="https://search.proquest.com/openview/d1bf1638531952fd965cd397d0d1b866/1?pq-origsite=gscholar&amp;cbl=18750&amp;diss=y">https://search.proquest.com/openview/d1bf1638531952fd965cd397d0d1b866/1?pq-origsite=gscholar&amp;cbl=18750&amp;diss=y</a>	N/A
148	Journal article	English	Historical	The paper explores the human-animal relationships during the Columbian Exchange; focusing on the impact of animals brought from Europe to the Americas and vice versa.	Norton, M. (2015). The chicken or the iegue: human-animal relationships and the Columbian exchange. <i>The American Historical Review</i> , 120(1), 28-60.	<a href="https://academic.oup.com/ahr/article-abstract/120/1/28/46122">https://academic.oup.com/ahr/article-abstract/120/1/28/46122</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
149	Journal article	English	Conservation	The paper discusses the three species of manatees that live in tropical and subtropical waters.	O'Shea, T. J. (1994). Manatees. <i>Scientific American</i> , 271(1), 66-72.	<a href="https://www.jstor.org/stable/24942768">https://www.jstor.org/stable/24942768</a>	N/A
150	Journal article/note	English	Conservation	The first manatee sighting in the Bahama Islands in over 70 years.	Odell, D. K., Reynolds, J. E., & Waugh, G. (1978). New records of the West Indian manatee ( <i>Trichechus manatus</i> ) from the Bahama Islands. <i>Biological Conservation</i> , 14(4), 289-293.	<a href="https://www.sciencedirect.com/science/article/abs/pii/0006320778900459">https://www.sciencedirect.com/science/article/abs/pii/0006320778900459</a>	<a href="https://doi.org/10.1016/0006-3207(78)90045-9">https://doi.org/10.1016/0006-3207(78)90045-9</a>
151	Book chapter	Spanish	Conservation	Evaluating the link between habitat characteristics and manatee distribution is crucial for species conservation	Olivera-Gómez, L. D. (2002). <i>Asociación entre características del hábitat y la distribución y abundancia del manatí antillano (Trichechus manatus manatus) en el norte de la bahía de Chetumal</i> . Contribuciones de la ciencia al manejo costero integrado de la bahía de Chetumal y su área de influencia, 61.	<a href="https://www.academia.edu/download/41271335/Contribuciones_de_la_Ciencia_al_Manejo_de_la_Bahia_de_Chetumal.pdf#page=70">https://www.academia.edu/download/41271335/Contribuciones_de_la_Ciencia_al_Manejo_de_la_Bahia_de_Chetumal.pdf#page=70</a>	N/A
152	Journal article/note	English	Distribution	Aerial surveys conducted in Bahía de Chetumal; Mexico; between 1998 and 2000.	Olivera-Gómez, L. D., & Mellink, E. (2002). Spatial and temporal variation in counts of the Antillean manatee ( <i>Trichechus m. manatus</i> ) during distribution surveys at Bahía de Chetmal, Mexico. <i>Aquatic Mammals</i> , 28(3), 285-293.	<a href="https://www.researchgate.net/publication/266211141_Spatial_and_temporal_variation_in_counts_of_the_Antillean_manatee_(Trichechus_m._manatus)_during_distribution_surveys_at_Bahia_de_Chetumal_Mexico">Spatial and temporal variation in counts of the Antillean manatee (<i>Trichechus m. manatus</i>) during distribution surveys at Bahía de Chetumal, Mexico   Request PDF (researchgate.net)</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
153	Journal article/note	English	Conservation	A study in Bahia de Chetumal explored the correlation between various habitat characteristics and manatee use.	Olivera-Gómez, L. D., & Mellink, E. (2005). Distribution of the Antillean manatee ( <i>Trichechus manatus manatus</i> ) as a function of habitat characteristics, in Bahía de Chetumal, Mexico. <i>Biological Conservation</i> , 121(1), 127-133.	N/A	<a href="https://doi.org/10.1016/j.biocon.2004.02.023">https://doi.org/10.1016/j.biocon.2004.02.023</a>
154	Journal article	English	Archaeological	Amulets of men made from manatee bone. Symbolic meaning.	O'Neil, M. (2002). Bone into Body, Manatee into Man. <i>Yale University Art Gallery Bulletin</i> , 92-97.	<a href="#">(51) Bone into Body, Manatee into Man   Megan O'Neil - Academia.edu</a>	N/A
155	Journal article	English	Conservation and distribution	A 1986 survey in Venezuela revealed a limited and declining distribution of the West Indian manatee.	O'Shea, T. J., Correa-Viana, M., Ludlow, M. E., & Robinson, J. G. (1988). Distribution, status, and traditional significance of the West Indian manatee <i>Trichechus manatus</i> in Venezuela. <i>Biological Conservation</i> , 46(4), 281-301.	<a href="https://www.sciencedirect.com/science/article/pii/0006320788900304">https://www.sciencedirect.com/science/article/pii/0006320788900304</a>	<a href="https://doi.org/10.1016/0006-3207(88)90030-4">https://doi.org/10.1016/0006-3207(88)90030-4</a>
156	Field report	English	Archaeological	The archaeology and ecology of Barbuda.	Perdikaris, S., McGovern, T., Brown, M., Look, C., McGovern, D., Palsdottir, A., & Smiarowski, K. (2008). Field report Barbuda historical ecology project 2008. <i>Unpublished report on file, Barbuda Research Center/City University of New York</i> .	N/A	N/A



Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
157	Journal article	Spanish	Zooarchaeological	Bone artifacts are rare in Cuban archaeology, but the region of Banes in Holguin province; known for its agroceramist sites; has yielded a significant collection of bone artifacts; with 38% being ceremonial relics made from manatee ribs.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). <i>Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe</i> , 10(2).	(PDF) <a href="#">Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba) (researchgate.net)</a>	N/A
158	Journal article/note	English	Biology	Instances of carnivory in manatees.	Powell Jr, J. A. (1978). Evidence of carnivory in manatees ( <i>Trichechus manatus</i> ). <i>Journal of Mammalogy</i> , 59(2), 442-442.	<a href="https://academic.oup.com/jmammal/article-e-abstract/59/2/442/830790?login=false">https://academic.oup.com/jmammal/article-e-abstract/59/2/442/830790?login=false</a>	<a href="https://doi.org/10.2307/1379938">https://doi.org/10.2307/1379938</a>
159	Journal article/note	English	Conservation and distribution	The current distribution and abundance of manatees in Puerto Rico are being studied.	Powell, J. A., Belitsky, D. W., & Rathbun, G. B. (1981). Status of the West Indian manatee ( <i>Trichechus manatus</i> ) in Puerto Rico. <i>Journal of Mammalogy</i> , 62(3), 642-646.	<a href="https://www.jstor.org/stable/1380417?seq=1">https://www.jstor.org/stable/1380417?seq=1</a>	<a href="https://doi.org/10.2307/1380417">https://doi.org/10.2307/1380417</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
160	Journal article/note	English	Distribution	This study utilized side-scan sonar to estimate manatee density in the San Pedro River system.	Puc-Carrasco, G., Morales-Vela, B., Olivera-Gómez, L. D., & González-Solís, D. (2017). First field-based estimate of Antillean manatee abundance in the San Pedro River system suggests large errors in current estimates for Mexico. <i>Ciencias marinas</i> , 43(4), 285-299.	<a href="https://www.scielo.org.mx/scielo.php?pid=S0185-38802017000400285&amp;script=sci_arttext&amp;lng=en">https://www.scielo.org.mx/scielo.php?pid=S0185-38802017000400285&amp;script=sci_arttext&amp;lng=en</a>	<a href="https://doi.org/10.7773/cm.v43i4.2704">https://doi.org/10.7773/cm.v43i4.2704</a>
161	Journal article/note	English	Conservation and distribution	The study utilized side-scan sonar to estimate the relative abundance of Antillean manatees in the Pantanos de Centla Biosphere Reserve (PCBR) in Tabasco; Mexico.	Puc-Carrasco, G., Olivera-Gómez, L. D., Arriaga-Hernández, S., & Jiménez-Domínguez, D. (2016). Relative abundance of Antillean manatees in the Pantanos de Centla Biosphere Reserve in the coastal plain of Tabasco, Mexico. <i>Ciencias marinas</i> , 42(4), 261-270.	<a href="https://www.scielo.org.mx/scielo.php?pid=S0185-38802016000400261&amp;script=sci_arttext">https://www.scielo.org.mx/scielo.php?pid=S0185-38802016000400261&amp;script=sci_arttext</a>	<a href="https://doi.org/10.7773/cm.v42i4.2678">https://doi.org/10.7773/cm.v42i4.2678</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
162	Technical report	English	Conservation	The Convention's Specially Protected Areas and Wildlife (SPAW) Protocol; adopted in 1990; focuses on conserving endangered species; including the Antillean subspecies of the West Indian manatee ( <i>Trichechus manatus manatus</i> ); with this report providing guidelines and recommendations for effective conservation strategies in the region; emphasizing cooperation among participating countries.	Quintana-Rizzo, E. and J.R. Reynolds III. (2010). Management plan for the West Indian Manatee ( <i>Trichechus manatus</i> ). United Nations Environmental Program. CEP Technical Report No. 48. UNEP Caribbean Environment Programme, Kingston, Jamaica.	<a href="https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=&amp;ved=2ahUKEwjN9aT1mv2BAXvQvEDHZznAUsQFnoECBQQAO&amp;url=https%3A%2F%2Fwww.researchgate.net%2Fpublication%2F277010070_Quintana-Rizzo_E_and_JR_Reynolds_III_2010_Management_plan_for_the_West_Indian_Manatee_Trichechus_manatus_United_Nations_Environmental_Program_CEP_Technical_Report_No_48_UNEP_Caribbean_Environment_Programme_USG_AovVaw2A1jDiRmniQqY40IfOqExI&amp;opi=89978449">https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=&amp;ved=2ahUKEwjN9aT1mv2BAXvQvEDHZznAUsQFnoECBQQAO&amp;url=https%3A%2F%2Fwww.researchgate.net%2Fpublication%2F277010070_Quintana-Rizzo_E_and_JR_Reynolds_III_2010_Management_plan_for_the_West_Indian_Manatee_Trichechus_manatus_United_Nations_Environmental_Program_CEP_Technical_Report_No_48_UNEP_Caribbean_Environment_Programme_USG_AovVaw2A1jDiRmniQqY40IfOqExI&amp;opi=89978449</a>	N/A
163	Journal article/note	English	Conservation and distribution	Aerial surveys and interviews with fishermen in Honduras reveal a low population of manatees.	Rathbun, G. B., Powell, J. A., & Cruz, G. (1983). Status of the West Indian manatee in Honduras. <i>Biological Conservation</i> , 26(4), 301-308.	<a href="https://www.sciencedirect.com/science/article/abs/pii/0006320783900940">https://www.sciencedirect.com/science/article/abs/pii/0006320783900940</a>	<a href="https://doi.org/10.1016/0006-3207(83)90094-0">https://doi.org/10.1016/0006-3207(83)90094-0</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
164	Journal article	English	Conservation and distribution	A survey conducted by the US Fish and Wildlife Service indicating a significant decline in manatee numbers over the past 50 years.	Rathbun, G. B., Woods, C. A., & Ottenwalder, J. A. (1985). The manatee in Haiti. <i>Oryx</i> , 19(4), 234-236.	<a href="https://www.cambridge.org/core/journals/oryx/article/manatee-in-haiti/92B111AA33978A999011BEA10531F3D7">https://www.cambridge.org/core/journals/oryx/article/manatee-in-haiti/92B111AA33978A999011BEA10531F3D7</a>	<a href="https://doi.org/10.1017/S0030605300025680">https://doi.org/10.1017/S0030605300025680</a>
165	Journal article	English	Feeding ecology	A stable isotope analysis of manatee carcasses and plant samples from four regions in Florida revealed that; overall; Florida manatees derive 44% of their diet from marine and/or estuarine sources; with variations observed across different geographic regions.	Reich, K. J., & Worthy, G. A. (2006). An isotopic assessment of the feeding habits of free-ranging manatees. <i>Marine Ecology Progress Series</i> , 322, 303-309.	<a href="https://www.int-res.com/abstracts/meps/v322/p303-309/">https://www.int-res.com/abstracts/meps/v322/p303-309/</a>	N/A
166	Journal article	English	Historical	The paper aims to critically examine the pre-history of Jamaica; challenging preconceived notions about the Arawaks and exploring aspects of Caribbean pre-history.	Reid, B. (1992). Arawak archaeology in Jamaica: New approaches, new perspectives. <i>Caribbean Quarterly</i> , 38(2-3), 15-20.	<a href="https://www.tandfonline.com/doi/pdf/10.1080/00086495.1992.11671758">https://www.tandfonline.com/doi/pdf/10.1080/00086495.1992.11671758</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
167	Journal article	English	Archaeological	This article explores the Saladoid religion in Trinidad and Tobago by analyzing Saladoid ceramic art and archaeological sites; utilizing a combination of archaeological; ethnohistorical; and ethnographic data.	Reid, B. A. (2004). Reconstructing the Saladoid religion of Trinidad and Tobago. <i>Journal of Caribbean History</i> , 38(2), 243-279.	<a href="#">Reconstructing the Saladoid Religion of Trinidad and Tobago – ProQuest</a>	N/A
168	Journal article	English	Zooarchaeological	Puerto Real; a Spanish town established between 1502 and 1505 on Hispaniola (now Haiti); relied heavily on cattle as a key economic resource; as revealed by the analysis of the vertebrate fauna excavated from the town's Locus 39 in 1981.	Reitz, E. J. (1986). Vertebrate Fauna from Locus 39, Puerto Real, Haiti. <i>Journal of Field Archaeology</i> , 13(3), 317-328.	<a href="https://www.tandfonline.com/doi/abs/10.1179/jfa.1986.13.3.317">https://www.tandfonline.com/doi/abs/10.1179/jfa.1986.13.3.317</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
169	Book chapter	English	Encyclopedia	Encyclopedia of marine mammals	Reynolds III, J. E., Powell, J. A., Diagne, L. W. K., Barton, S. L., & Scolardi, K. M. (2018). <i>Manatees: Trichechus manatus, T. senegalensis, and T. inunguis</i> . In Encyclopedia of marine mammals (pp. 558-566). Academic Press.	<a href="https://www.sciencedirect.com/science/article/pii/B9780128043271001655">https://www.sciencedirect.com/science/article/pii/B9780128043271001655</a>	N/A
170	Journal article/note	English	Conservation	Status and conservation of manatees <i>Trichechus manatus manatus</i> in Costa Rica	Reynolds III, J. E., Szelistowski, W. A., & León, M. A. (1995). Status and conservation of manatees <i>Trichechus manatus manatus</i> in Costa Rica. <i>Biological Conservation</i> , 71(2), 193-196.	N/A	<a href="https://doi.org/10.1016/0006-3207(94)00046-S">https://doi.org/10.1016/0006-3207(94)00046-S</a>
171	Research paper	English	Archaeological	The paper discusses non-destructive methods for determining whether a Taíno Cahoba Bowl is made of bone or a replica.	Ricketts, D. R. (2008) Non-Destructive Analysis of the Composition of Taíno Cahoba Bowl: Bone or Replica?. Presented for publication in the Boletín del Museo del Hombre Dominicano, Santo Domingo, Dominican Republic, 2008.	<a href="https://www.academia.edu/download/31008102/Ricketts_Manatee_Paper_2008.pdf">https://www.academia.edu/download/31008102/Ricketts_Manatee_Paper_2008.pdf</a>	N/A
172	Journal article/note	English	Conservation	The Catazajá wetlands in northeast Chiapas; Mexico; host a manatee population; with 11% of the study area showing their presence.	Rodas-Trejo, J., Romero-Berny, E. I., & Estrada, A. (2008). Distribution and conservation of the West Indian manatee ( <i>Trichechus manatus manatus</i> ) in the Catazajá wetlands of northeast Chiapas, México. <i>Tropical Conservation Science</i> , 1(4), 321-333.	<a href="https://journals.sagepub.com/doi/pdf/10.1177/194008290800100403">https://journals.sagepub.com/doi/pdf/10.1177/194008290800100403</a>	<a href="https://doi.org/10.1177/194008290800100403">https://doi.org/10.1177/194008290800100403</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
173	Journal article/note	English	Environmental history	Environmental history of marine mammal exploitation in Trinidad and Tobago	Romero, A., Baker, R., Cresswell, J. E., Singh, A., McKie, A., & Manna, M. (2002). Environmental history of marine mammal exploitation in Trinidad and Tobago, WI, and its ecological impact. <i>Environment and History</i> , 8(3), 255-274.	<a href="https://www.jstor.org/stable/20723235">https://www.jstor.org/stable/20723235</a>	N/A
174	Book	French	Historical	Natural and moral history of the American West Indies. First book-Including natural history.	Roux, B., Grunberg, B., & Grunberg, J. (2012). <i>Charles de Rochefort. Histoire naturelle et morale des îles Antilles de l'Amérique. Livre premier-Comprenant l'histoire naturelle.</i>	N/A	N/A
175	Book	French	Log	Anonymous Travelers in the West Indies (Vol. 4).	Roux, B., Grunberg, B., & Grunberg, J. (2014). <i>Voyageurs anonymes aux Antilles (Vol. 4).</i> L'Harmattan.	N/A	N/A
176	Journal article	English	Archaeological	This paper employs a multidisciplinary approach; combining archaeological and evolutionary biological methods; to evaluate the social significance of the bared-teeth motif (BTM) in the pre-Columbian	Samson, A. V., & Waller, B. M. (2010). Not growling but smiling: New interpretations of the bared-teeth motif in the pre-Columbian Caribbean. <i>Current Anthropology</i> , 51(3), 425-433.	<a href="https://latinamericanstudies.org/ancient/CA-june-2010.pdf">https://latinamericanstudies.org/ancient/CA-june-2010.pdf</a>	<a href="https://doi.org/10.1086/651090">https://doi.org/10.1086/651090</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
				iconography of the Greater Antilles.			
177	BSc Thesis	Spanish	Conservation	Human-induced threats; such as overexploitation; boat accidents; and entanglement in fishing nets; pose significant challenges to manatee populations in the Colombian context.	Sánchez, L.G. (2018). <i>Aportes al conocimiento ecológico de una especie en epligro de extinción, el manatí del Caribe (Trichechus manatus manatus) en el complejo de humedales de Ayapel, Córdoba.</i> (Bachelor Thesis, Universidad Javeriana).	<a href="https://repository.javeriana.edu.co/handle/10554/37834">https://repository.javeriana.edu.co/handle/10554/37834</a>	N/A
178	Book chapter	English	Conservation	The paper addresses the conservation of West Indian manatees in the Wider Caribbean.	Self-Sullivan, C., & Mignucci-Giannoni, A. A. (2012). West Indian manatees (Trichechus manatus) in the wider Caribbean region.	<a href="http://manatipr.org/wp-content/uploads/2018/09/SullivanMignucci2012SC.pdf">http://manatipr.org/wp-content/uploads/2018/09/SullivanMignucci2012SC.pdf</a>	N/A
179	Journal article/note	English	Habitat	This study examines the seasonal occurrence of Antillean manatees at breaks in the northern Belize Barrier Reef.	Self-Sullivan, C., Smith, G. W., Packard, J. M., & LaCommare, K. S. (2003). Seasonal occurrence of male Antillean manatees (Trichechus manatus manatus) on the Belize Barrier Reef. <i>Aquatic Mammals</i> , 29(3), 342-354.	<a href="https://doi.org/10.1578/01675420360736514">086755SelfSullivan_et al2003.pdf (scientific-papers.s3.amazonaws.com)</a>	<a href="https://doi.org/10.1578/01675420360736514">https://doi.org/10.1578/01675420360736514</a>



Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
180	Report paper	English	Zooarchaeological	This paper presents a zooarchaeological analysis of the White Marl site in Jamaica.	Shev, E. T., Thomas, R., & Beier, Z. (2022). Zooarchaeological and isotopic findings from White Marl, Jamaica: insights on indigenous human-animal interactions and evidence for the management of Jamaican hutias. <i>Journal Of Caribbean Archaeology</i> , 22, 1-30	N/A	N/A
181	Journal article	English	Environmental health	This study assessed the antifungal susceptibility and virulence factors production by <i>Candida</i> spp. isolated from sirenians in Brazil.	Sidrim, J. J. C., Carvalho, V. L., de Souza Collares Maia Castelo-Branco, D., Brilhante, R. S. N., de Melo Guedes, G. M., Barbosa, G. R., ... & Rocha, M. F. G. (2016). Antifungal resistance and virulence among <i>Candida</i> spp. from captive Amazonian manatees and West Indian manatees: potential impacts on animal and environmental health. <i>EcoHealth</i> , 13, 328-338.	<a href="https://link.springer.com/article/10.1007/s10393-015-1090-8">https://link.springer.com/article/10.1007/s10393-015-1090-8</a>	<a href="https://doi.org/10.1007/s10393-015-1090-8">https://doi.org/10.1007/s10393-015-1090-8</a>
182	Journal article/note	English	Conservation and distribution	Fragmented populations of the West Indian Manatee ( <i>Trichechus manatus</i> ) in Tortuguero; Costa Rica; were studied from 1996 to 1998 through research	Smethurst, D., & Nietschmann, B. (1999). The distribution of manatees ( <i>Trichechus manatus</i> ) in the coastal waterways of Tortuguero, Costa Rica. <i>Biological Conservation</i> , 89(3), 267-274.	<a href="https://www.sciencedirect.com/science/article/abs/pii/S0006320798001542">https://www.sciencedirect.com/science/article/abs/pii/S0006320798001542</a>	<a href="https://doi.org/10.1016/S0006-3207(98)00154-2">https://doi.org/10.1016/S0006-3207(98)00154-2</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
				expeditions; interviews; and boat surveys spanning over 3500 person-hours.			
183	Journal article	English	Historical ecology	This paper examines the consequences of large-scale wildlife exploitation; particularly of aquatic animals; in the region dating back to colonial times.	Smith, N. J. (1981). Caimans, capybaras, otters, manatees, and man in Amazonia. <i>Biological Conservation</i> , 19(3), 177-187.	<a href="https://www.sciencedirect.com/science/article/pii/0006320781900331">https://www.sciencedirect.com/science/article/pii/0006320781900331</a>	N/A
184	Journal article/note	English	Historical ecology	In rural Veracruz; Mexico; self-identified campesinos were interviewed; providing firsthand historical insights into hunting and consuming the Antillean manatee ( <i>Trichechus manatus manatus</i> ).	Smith-Cavros, E. M., Duluc-Silva, S., Rodriguez, M. D. C., Ortiz, P., & Keith, E. O. (2012). "You Can't Eat Money When You Are Hungry": Campesinos, Manatee Hunting, and Environmental Regret in Veracruz, Mexico. <i>Culture, Agriculture, Food and Environment</i> , 34(1), 68-80.	<a href="https://anthrosource.onlinelibrary.wiley.com/doi/abs/10.1111/j.2153-9561.2012.01065.x">https://anthrosource.onlinelibrary.wiley.com/doi/abs/10.1111/j.2153-9561.2012.01065.x</a>	<a href="https://doi.org/10.1111/j.2153-9561.2012.01065.x">https://doi.org/10.1111/j.2153-9561.2012.01065.x</a>
185	Book	English	Archaeological	The paper discusses the archeological investigations conducted in the Bay Islands; Spanish Honduras.	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. <i>Smithsonian Miscellaneous Collections</i> .	<a href="https://repository.si.edu/bitstream/handle/10088/23868/SMC_92_Strong_1935_14_1-176.pdf">https://repository.si.edu/bitstream/handle/10088/23868/SMC_92_Strong_1935_14_1-176.pdf</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
186	Journal article	English	Evolutionary history	A new specimen of the extinct manatee species <i>Potamosiren cf. P. magdalenensis</i> is reported from the early Miocene Barzalosa Formation in Colombia.	Suarez, C., Gelfo, J. N., Moreno-Bernal, J. W., & Velez-Juarbe, J. (2021). An early Miocene manatee from Colombia and the initial Sirenian invasion of freshwater ecosystems. <i>Journal of South American Earth Sciences</i> , 109, 103277.	<a href="https://www.sciencedirect.com/science/article/pii/S0895981121001231">https://www.sciencedirect.com/science/article/pii/S0895981121001231</a>	<a href="https://doi.org/10.1016/j.jsames.2021.103277">https://doi.org/10.1016/j.jsames.2021.103277</a>
187	Sections Act	English	Conservation	Haiti country analysis of tropical forestry and biodiversity.	Swartley, D. B., & Toussaint, J. R. (2006). Haiti country analysis of tropical forestry and biodiversity. <i>US Agency for International Development and US Forest Service (Management and Engineering Technologies International, Inc.)</i> .	<a href="https://usaidgems.org/Workshops/Haiti2014Materials/Reference%20Documents/01%20118%20119%20Haiti%20from%202006.pdf">https://usaidgems.org/Workshops/Haiti2014Materials/Reference%20Documents/01%20118%20119%20Haiti%20from%202006.pdf</a>	N/A
188	Stock assessment report	English	Stock assessment	The paper discusses the West Indian manatee stock in Puerto Rico; and its taxonomic classification.	Stock Assessment Report (SAR) WEST INDIAN MANATEE ( <i>Trichechus manatus</i> ) PUERTO RICO STOCK (Antillean subspecies, <i>Trichechus manatus manatus</i> ) U.S. Fish and Wildlife Service, Caribbean Ecological Services Field Office, Boquerón, Puerto Rico	<a href="https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=&amp;ved=2ahUKFwjN9aT1mv2BAXvQvEDHZznAUzQFnoECBMQAQ&amp;url=https%3A%2F%2Fwww.fws.gov%2Fsites%2Fdefault%2Ffiles%2Fdocuments%2Fstock-assessment-report-west-indian-manatee-puerto-rico-stock-">https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=&amp;ved=2ahUKFwjN9aT1mv2BAXvQvEDHZznAUzQFnoECBMQAQ&amp;url=https%3A%2F%2Fwww.fws.gov%2Fsites%2Fdefault%2Ffiles%2Fdocuments%2Fstock-assessment-report-west-indian-manatee-puerto-rico-stock-</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
						<a href="#">2023.pdf&amp;usq=AovVaw2y3Lx0uG6Bu11ffidaRm7G&amp;opi=89978449</a>	
189	Technical report	English	Conservation and distribution	This document aims to provide a comprehensive overview of the current status; legislation; and conservation efforts for West Indian manatees in the Caribbean region.	United Nations Environment Programme, & Caribbean Environment Programme (2010). <i>Regional Management Plan for the West Indian Manatee (Trichechus Manatus)</i> - CEP Technical Report No. 51.	<a href="https://wedocs.unep.org/20.500.11822/39756">https://wedocs.unep.org/20.500.11822/39756</a>	N/A
190	Technical report	English	Conservation and distribution	The document outlines the Protocol Concerning Specially Protected Areas and Wildlife (SPAW).	United Nations Environment Programme, & Caribbean Environment Programme (1995). Regional Management Plan for the West Indian Manatee (Trichechus Manatus) - CEP Technical Report No. 35.	<a href="https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=&amp;ved=2ahUKEwiN9aT1mv2BAxXvQvEDHZznAUsQFnoECBUQAQ&amp;url=https%3A%2F%2Fwedocs.unep.org%2Fbitstream%2Fhandle%2F20.500.11822%2F28663%2FCEP_TR_35-en.pdf%3Fsequence%3D1%26isAllowed%3Dy&amp;usq=AOvVaw2nKbsK86yOqaiBVKonCWK7&amp;opi=89978449">https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=&amp;ved=2ahUKEwiN9aT1mv2BAxXvQvEDHZznAUsQFnoECBUQAQ&amp;url=https%3A%2F%2Fwedocs.unep.org%2Fbitstream%2Fhandle%2F20.500.11822%2F28663%2FCEP_TR_35-en.pdf%3Fsequence%3D1%26isAllowed%3Dy&amp;usq=AOvVaw2nKbsK86yOqaiBVKonCWK7&amp;opi=89978449</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
191	Journal article	Spanish	Zooarchaeological	This review examines the archaeological evidence of aquatic mammals in pre-Columbian sites in Cuba.	Vázquez, O. J. (2015). Manatíes y delfines en sitios arqueológicos precolombinos de Cuba. <i>Novitates Caribaea</i> , (8), 30-39.	<a href="http://www.novitatescaribaea.do/index.php/novitates/article/view/40">http://www.novitatescaribaea.do/index.php/novitates/article/view/40</a>	<a href="https://doi.org/10.33800/nc.v0i8.40">https://doi.org/10.33800/nc.v0i8.40</a>
192	Book	English	Environmental history	The text explores the dynamic environmental history of the Caribbean Archipelago.	Vega, J. E. (1990). <i>The archaeology of coastal change, Puerto Rico</i> . University of Florida.	<a href="https://search.proquest.com/openview/bc6b692d29986e65596fb760f0b7e2b7/1?pq-origsite=gscholar&amp;cbl=18750&amp;diss=y">https://search.proquest.com/openview/bc6b692d29986e65596fb760f0b7e2b7/1?pq-origsite=gscholar&amp;cbl=18750&amp;diss=y</a>	N/A
193	Journal article	English	Paleobiogeography	The text explores the paleobiogeography of seagrasses; leveraging the better-preserved fossil record of seagrass consumers like sirenians (seacows; manatees; and dugongs) to infer the historical distribution of seagrasses.	Vélez-Juarbe, J. (2014). "Ghost of seagrasses past: using sirenians as a proxy for historical distribution of seagrasses." <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> 400: 41-49.	<a href="https://www.sciencedirect.com/science/article/pii/S0031018213002368">https://www.sciencedirect.com/science/article/pii/S0031018213002368</a>	<a href="https://doi.org/10.1016/j.palaeo.2013.05.012">https://doi.org/10.1016/j.palaeo.2013.05.012</a>

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
194	Journal article	English	Historical ecology	The text delves into the historical relationship between indigenous people and manatees in Brazil; spanning prehistoric times to the present day.	Vieira, N., & Brito, C. (2017). Brazilian manatees (re) discovered: Early modern accounts reflecting the overexploitation of aquatic resources and the emergence of conservation concerns. <i>International Journal of Maritime History</i> , 29(3), 513-528.	<a href="https://journals.sagepub.com/doi/abs/10.1177/0843871417713683">https://journals.sagepub.com/doi/abs/10.1177/0843871417713683</a>	<a href="https://doi.org/10.1177/0843871417713683">https://doi.org/10.1177/0843871417713683</a>
195	Journal article	English	Archaeological	The study focuses on the archaeological finds at Sitio Drago in Bocas del Toro; Panama.	Wake, T. A., Doughty, D. R., & Kay, M. (2013). Archaeological investigations provide late Holocene baseline ecological data for Bocas del Toro, Panama. <i>Bulletin of Marine Science</i> , 89(4), 1015-1035.	<a href="https://www.ingentaconnect.com/content/umrmsas/bullmar/2013/00000089/00000004/art00015">https://www.ingentaconnect.com/content/umrmsas/bullmar/2013/00000089/00000004/art00015</a>	N/A
196	Journal article	English	Archaeological	This article analyzes Saladoid ceramics from over 20 species or genera of animals.	Waldron, L. (2011). Geographic distributions of zoomorphic motifs in saladoid ceramics. <i>Caribbean Connections</i> , 1(2).	<a href="https://www.researchgate.net/profile/Lawrence-Waldron-2/publication/272791647_Geographic_Distributions_of_Zoomorphic_Motifs_in_Saladoid_Ceramics/links/57bf07b008aeda1ec3869e87/Geographic-Distributions-of-Zoomorphic-Motifs-in-Saladoid-Ceramics.pdf">https://www.researchgate.net/profile/Lawrence-Waldron-2/publication/272791647_Geographic_Distributions_of_Zoomorphic_Motifs_in_Saladoid_Ceramics/links/57bf07b008aeda1ec3869e87/Geographic-Distributions-of-Zoomorphic-Motifs-in-Saladoid-Ceramics.pdf</a>	N/A

Dataset ID	Type of publication	Language	Topic	Brief Description	Reference	Link	DOI
197	Journal article	English	Historical	This synthesis offers a comprehensive overview of Caribbean prehistory.	Wilson, S. M. (2007). The archaeology of the Caribbean. <i>Cambridge World Archaeology</i> , Cambridge University Press, New York. 209 pp.	N/A	N/A
198	Journal article	English	Feeding ecology	This study examines changes in subsistence economies during the 2000-year colonization of the Leeward and Virgin Islands.	Wing, E. S. (2001). The sustainability of resources used by native Americans on four Caribbean islands. <i>International journal of osteoarchaeology</i> , 11(1-2), 112-126.	<a href="https://onlinelibrary.wiley.com/doi/abs/10.1002/oa.550">https://onlinelibrary.wiley.com/doi/abs/10.1002/oa.550</a>	N/A
199	BSc Thesis	Spanish	Distribution	Contribution to the study of the distribution of the manatee ( <i>Tichechus manatus</i> Linnaeus, 1758) in the southern portion (Chetumal-Rio Hondo Bay) of Quintana Roo; Mexico	Zarate Bacerra, M. E. (1990) <i>Contribucion al estudio de la distribucion del manati (Tichechus manatus Linnaeus, 1758) en la porcion sur (bahia de Chetumal-Rio Hondo) de Quintana Roo, Mexico</i> . [BSc Thesis]. Universidad National Autonoma de Mexico.	<a href="https://repositorio.unam.mx/contenidos/contribucion-al-estudio-de-la-distribucion-del-manati-tichechus-manatus-linnaeus-1758-en-la-porcion-sur-bahia-de-chetu-430290?c=r1101k&amp;d=false&amp;q=*&amp;i=1&amp;v=1&amp;t=search_0&amp;as=0">https://repositorio.unam.mx/contenidos/contribucion-al-estudio-de-la-distribucion-del-manati-tichechus-manatus-linnaeus-1758-en-la-porcion-sur-bahia-de-chetu-430290?c=r1101k&amp;d=false&amp;q=*&amp;i=1&amp;v=1&amp;t=search_0&amp;as=0</a>	N/A





Appendix II  
Bone Count Database

## 2.1 Bone Count – Data

Dataset_ID	Location	Multiple_bones	Site_name	Year_reported	Historical_period	Date_B_C_CE	Site_type	Rural_urban	NI_SP	NISP_%	Taxonomy	M_NI	MNI_%	Data_quality
1	Bay Island; Utila Island; site 2	yes	Black Rock Basin; Site 2	1930; 1931; 1933	N/A	N/A	Coastal settlement	N/A	N/A	N/A	Trichechidae; Trichechus manatus	N/A	N/A	Intermediate data quality
2	Belize; Cerros	yes	Cerros	1986	Preclassic	N/A	Dock	N/A	4	N/A	Trichechidae; Trichechus manatus	2	N/A	Intermediate data quality
3	Belize; Moho Cay; Middle Classic Maya	yes	Moho Cay; known locally as; Wild Orchid Caye	1984	400-700 CE	400-700 CE	Coastal Classic Mayan settlement	Neither	N/A	N/A	Trichechidae; Trichechus manatus	N/A	N/A	Intermediate data quality
4	Caribbean; Haiti	yes	N/A	1993-2003	N/A	N/A	N/A	N/A	11	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
5	Colombia: Basurero de Monte Sion; Repelon; Prehistoric	no	Basurero de Monte Sion	2010	prehistoric	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus inunguis	N/A	N/A	Reliable data quality
6	Colombia: Puerto Chacho; Canal del Dique; Arjona; Prehistoric	yes	Puerto Chacho	2010	prehistoric	N/A	N/A	N/A	2	N/A	Trichechidae; Trichechus inunguis	N/A	N/A	Reliable data quality

Dataset_ID	Location	Multiple_bones	Site_name	Year_reported	Historical_period	Date_B_C_CE	Site_type	Rural_urban	NI_SP	NISP_%	Taxonomy	MNI	MNI_%	Data_quality
7	Colombia; Bolivar; Cartagena; Canal Dike	yes	N/A	2010	Early Formative Period	3300-3000 BC	midden	N/A	2	N/A	Trichechidae; Trichechus manatus	2	N/A	Intermediate data quality
8	Cuba; Cayo Bariay	yes	Cayo Bariay	1998;2008	N/A	N/A	fire pits	N/A	N/A	N/A	Trichechidae; Trichechus manatus	N/A	N/A	Intermediate data quality
9	Cuba; Los Caracoles; north of Manzanillo and Hahn	no	Los Caracoles	2019	350 BC-630 CE	350 BC - 630 CE	Midden	N/A	33	N/A	Trichechidae; Trichechus manatus	2	N/A	Intermediate data quality
10	Cuba; Manzanillo; Barrio Palo Seco. Los Caracoles site. Trench B; Section 3; Level 15-30 cm	yes	Los Caracoles	1957	Caya Redondo Period	N/A	N/A	N/A	4	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
11	Cuba; Matanzas; Canimar Abajo	no	Canimar Abajo	1996	N/A	N/A	Shell matrix; cemetery	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Reliable data quality
12	Cuba; San Antonio	yes	San Antonio	N/A	N/A	N/A	fire pits	N/A	N/A	N/A	Trichechidae; Trichechus manatus	N/A	N/A	Intermediate data quality

Dataset_ID	Location	Multiple_bones	Site_name	Year_reported	Historical_period	Date_BCE	Site_type	Rural_urban	NI SP	NISP_%	Taxonomy	MNI	MNI_%	Data_quality
13	Haiti; Fort Liberte; Carrier site. Midden 6; Section C-10; Level 1	no	Carrier site	1935	Carrier Period	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
14	Haiti; Carrier site; Ft. Liberte	no	Carrier site	1935	N/A	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
15	Haiti; Diale 1 site. Midden 5B; Section C-3; Level 1	yes	Diale 1	1935	Meillac Period	N/A	N/A	N/A	N/A	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
16	Haiti; Diale 1; Ft. Liberte	yes	Diale 1	1934	N/A	N/A	N/A	N/A	N/A	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
17	Haiti; En Bas Saline; Garden E; Pit Feature 49: FS# 7469	no	En Bas Saline; Garden E; Pit Feature 49: FS# 7469	2015	1250-1530 CE	1250-1530 CE	Big post; elite	Neither	1	<1	Trichechidae; Trichechus manatus	1	0.1	Reliable data quality
18	Haiti; Meillac site; Ft. Liberte	no	Meillac site	1935	N/A	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality

Dataset_ID	Location	Multiple_bones	Site_name	Year_reported	Historical_period	Date_B_C_CE	Site_type	Rural_urban	NI_SP	NISP_%	Taxonomy	M_NI	MNI_%	Data_quality
19	Haiti;Puerto Real; Locus 39; post-colonial	NA	Locus 39	1981	1500-1600 CE	1500-1600 CE	Town	urban	1	<0.01	Trichechidae; Trichechus manatus	1	1.7	Reliable data quality
20	Jamaica: Middlesex County: Clarendon: Round Hill	NA	N/A	1974	Taino	N/A	N/A	N/A	N/A	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
21	Jamaica: Middlesex County: St Catherine: Rodney	NA	N/A	1974	Taino	N/A	N/A	N/A	N/A	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
22	Jamaica: Middlesex County: St Catherine: Rodney	NA	N/A	1974	Taino	N/A	N/A	N/A	N/A	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
23	Jamaica: Middlesex County: St Catherine: Rodney	NA	N/A	1974	Taino	N/A	N/A	N/A	N/A	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
24	Jamaica: Middlesex County: St Catherine: White Marl	NA	N/A	1974	Taino	N/A	N/A	N/A	N/A	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
25	Jamaica: Middlesex County: St Catherine: White Marl	NA	N/A	1974	Taino	N/A	N/A	N/A	N/A	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality

Dataset_ID	Location	Multiple_bones	Site_name	Year_reported	Historical_period	Date_B_C_CE	Site_type	Rural_urban	NI_SP	NISP_%	Taxonomy	M_NI	MNI_%	Data_quality
26	Jamaica; Alligator Pond	yes	N/A	1991	Little River Period	N/A	N/A	N/A	2	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
27	Jamaica; Middlesex County; Clarendon; Vere	NA	N/A	1974	Taino	N/A	N/A	N/A	N/A	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
28	Jamaica; Middlesex County; Clarendon; Vere	NA	N/A	1974	Taino	N/A	N/A	N/A	N/A	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
29	Jamaica; Middlesex County; Clarendon; Vere	NA	N/A	1974	Taino	N/A	N/A	N/A	N/A	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
30	Jamaica; Middlesex County; Clarendon; Vere	NA	N/A	1974	Taino	N/A	N/A	N/A	N/A	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
31	Jamaica; White Marl; unit U2.12.NE; Taino	yes	White Marl; unit U2.12.NE	2018	900-1500 CE	900 BC - 1500 CE	Mound	Neither	1	0.02	Trichechidae; Trichechus manatus	1	0.22	Intermediate data quality
32	Mexico; Cancun	no	Cancun; shell midden	N/A	Late preclassic period	450 BC - 150 CE	Shell midden	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality

Dataset_ID	Location	Multiple_bones	Site_name	Year_reported	Historical_period	Date_B_C_CE	Site_type	Rural_urban	NI_SP	NISP_%	Taxonomy	MNI	MNI_%	Data_quality
33	Mexico; Champoton	yes	Champoton	2003-2005	postclassic maya	1200-1500 CE	N/A	N/A	4	N/A	Trichechidae; Trichechus manatus	2	N/A	Intermediate data quality
34	Mexico; Isla Cerritos	yes	Isla Cerritos	1984	Classic Maya	900-1050 CE	Trade	N/A	71	N/A	Trichechidae; Trichechus manatus	3	N/A	Intermediate data quality
35	Mexico; Jonuta	no	Jonuta	1997	N/A	N/A	test pit	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
36	Mexico; Mayapan	no	Mayapan	2008	1100-1461 CE	1100-1462 CE	City	urban	2	0.004	Trichechidae; Trichechus manatus	N/A	N/A	Intermediate data quality
37	Mexico; Mayapan	yes	Mayapan; Q-54 hall	1962	postclassic maya	1200-1440 CE	City	urban; political center	2	0.02	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
38	Mexico; Mayapan	yes	Mayapan; Q-95 burial shaft temple	1962	postclassic maya	1200-1440 CE	City	urban; political center	1	0.03	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
39	Mexico; Oxkintoc	yes	Oxkintoc	N/A	Middle Classic	550-650 CE	architectural group	urban	N/A	N/A	Trichechidae; Trichechus manatus	N/A	N/A	Intermediate data quality

Dataset_ID	Location	Multiple_bones	Site_name	Year_reported	Historical_period	Date_B_C_CE	Site_type	Rural_urban	NI_SP	NISP_%	Taxonomy	M_NI	MNI_%	Data_quality
40	Mexico; Tulum	no	Tulum; terrace no. 2	1970(s)	N/A	N/A	fill material	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
41	Mexico; Veracruz	yes	Tres Zapotes	2003	Late and Terminal Formative periods	100-300 CE	built on terraces and floodplains	urban; political center	4	3.05	Trichechidae; Trichechus manatus	1	10.00	Reliable data quality
42	Mexico; Vista Alegre	no	Vista Alegre	N/A	Terminal classical period	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
43	Mexico; Xcambo	yes	Xcambo	1990(s)	Classic Maya	250-700 CE	construction fill	Urban	4	N/A	Trichechidae; Trichechus manatus	2	N/A	Intermediate data quality
44	Northern Maya lowlands; Champotón	yes	Champotón; group 5 midden	multiple	late postclassic	1250-1500 CE	coast	urban; trade center	2	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
45	Northern Maya lowlands; Xcambó	yes	Xcambó; West Plaza structure fill	multiple	early and late classic periods	600-850 CE	coast	urban; coastal trade center	2	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality



Dataset_ID	Location	Multiple_bones	Site_name	Year_reported	Historical_period	Date_BC_CE	Site_type	Rural_urban	NI_SP	NISP_%	Taxonomy	MNI	MNI_%	Data_quality
46	Panama; Bocas del Toro	yes	Bocas del Toro	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Trichechidae; Trichechus manatus	N/A	N/A	Intermediate data quality
47	Panama; Bocas del Toro; Agucate Peninsula; Cerro Brujo	yes	Cerro Brujo	1970 (s)	N/A	880-1250 CE	N/A	rural	13	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
48	Panama; Bocas del Toro; Isla Colon; Sitio Drago	yes	Sitio Drago	1970 (s)	N/A	690-1410 CE	Trading center	urban	37	N/A	Trichechidae; Trichechus manatus	9	N/A	Intermediate data quality
49	Panama; Cocle; Penonome; Sitio Conte	yes	Sitio Conte	1930 (s)/1940 (s)	Coclé	N/A	grave 1	N/A	8	N/A	Trichechidae; Trichechus manatus	N/A	N/A	Intermediate data quality
50	Puerto Rico; Canas site. Excavation 1; Square E-1; Level 1.00m	no	Ponce; Canas site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
51	Puerto Rico; Canas site. Excavation 1; Square E-4; Level 0.50m	no	Ponce; Canas site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
52	Puerto Rico; Canas site. Excavation 1; Square F-8; Level 1.25m	no	Ponce; Canas site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality

Dataset_ID	Location	Multiple_bones	Site_name	Year_reported	Historical_period	Date_B_C_CE	Site_type	Rural_urban	NI_SP	NISP_%	Taxonomy	MNI	MNI_%	Data_quality
53	Puerto Rico; Canas site. Excavation 1; Square F-8; Level 1.25m	no	Ponce ;Canas site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
54	Puerto Rico; Canas site. Excavation 1; Square I-1; Level 0.25m	no	Ponce ;Canas site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
55	Puerto Rico; Canas site. Excavation 1; Square I-1; Level 0.50m	no	Ponce ;Canas site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
56	Puerto Rico; Canas site. Excavation 1; Square I-1; Level 0.75m	no	Ponce ;Canas site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
57	Puerto Rico; Canas site. Excavation 1; Square L-2; Level 1.00m	no	Ponce ;Canas site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
58	Puerto Rico; Coto site	no	Coto site; excavation unknown or mixed	1934	Ostiones period	N/A	N/A	N/A	4	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality

Dataset_ID	Location	Multiple_bones	Site_name	Year_reported	Historical_period	Date_B_C_CE	Site_type	Rural_urban	NI_SP	NISP_%	Taxonomy	M_NI	MNI_%	Data_quality
59	Puerto Rico; Coto site	no	Coto site; Excavation 1; level .75 m; square unknown	1934	Ostiones period	N/A	N/A	N/A	4	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
60	Puerto Rico; Coto site	no	Coto site; Excavation 1; level .75 m; square unknown	1934	Ostiones period	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
61	Puerto Rico; Coto site. Excavation 2; level .50m; square E-2	no	Coto site	1934	Ostiones period	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
62	Puerto Rico; Monserrate site.	no	Monserrate site	1934	N/A	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
63	Puerto Rico; Monserrate site. Mound A; Square A-1; Level 0.25m	no	Monserrate site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality

Dataset_ID	Location	Multiple_bones	Site_name	Year_reported	Historical_period	Date_B_C_CE	Site_type	Rural_urban	NI_SP	NISP_%	Taxonomy	M_NI	MNI_%	Data_quality
64	Puerto Rico; Monserrate site. Mound A; Square A-2; Level 0.25m	no	Monserrate site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
65	Puerto Rico; Monserrate site. Mound A; Square A-3; Level 0.25m	no	Monserrate site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
66	Puerto Rico; Monserrate site. Mound A; Square A-3; Level 0.25m	no	Monserrate site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
67	Puerto Rico; Monserrate site. Mound A; Square A-4; Level 0.25m	no	Monserrate site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
68	Puerto Rico; Monserrate site. Mound A; Square A-5; Level 0.25m	yes	Monserrate site	1934	Ceramic age	N/A	N/A	N/A	3	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
69	Puerto Rico; Monserrate site. Mound A; Square A-5; Level 0.25m	no	Monserrate site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
70	Puerto Rico; Monserrate site. Mound A; Square B-5; Level 1.00m	no	Monserrate site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality

Dataset_ID	Location	Multiple_bones	Site_name	Year_reported	Historical_period	Date_BC_CE	Site_type	Rural_urban	NI_SP	NISP_%	Taxonomy	MNI	MNI_%	Data_quality
71	Puerto Rico; Monserrate site. Mound B; Square A-2; Level 0.25m	no	Monserrate site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
72	Puerto Rico; Monserrate site. Mound B; Square A-4; Level 0.25m	no	Monserrate site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
73	Puerto Rico; Monserrate site. Mound B; Square A-5; Level 1.25m	no	Monserrate site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
74	Puerto Rico; Monserrate site. Mound B; Square B-3; Level 0.75m	no	Monserrate site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
75	Puerto Rico; Monserrate site. Mound E; Square A-2; Level 0.50m	no	Monserrate site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
76	Puerto Rico; Monserrate site. Mound E; Square A-2; Level 0.50m	no	Monserrate site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
77	Puerto Rico; Monserrate site. Mound E; Square A-2; Level 0.50m	no	Monserrate site	1934	Ceramic age	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality

Dataset_ID	Location	Multiple_bones	Site_name	Year_reported	Historical_period	Date_B_C_CE	Site_type	Rural_urban	NI_SP	NISP_%	Taxonomy	MNI	MNI_%	Data_quality
78	Puerto Rico; Monserrate site. Mound E; Square B-3; Level 0.50m	no	Monserrate site	1934	Ceramic age	N/A	N/A	N/A	2	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
79	Puerto Rico; Ponce; Canas site	yes	Ponce; Canas site	1934	N/A	N/A	N/A	N/A	25	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
80	Unknown; Caribbean/America	yes; BM 329	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
81	Unknown; Caribbean/America	yes; BM 962; one bone from 3001; mixed	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	Trichechidae; Trichechus manatus; or dugong	2	N/A	Intermediate data quality
82	Venezuela; central coast El Palito; Prehistoric	NA	N/A	2006	prehistoric	N/A	N/A	N/A	N/A	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
83	Venezuela; central coast Palmasola; Prehistoric	NA	N/A	2006	prehistoric	N/A	N/A	N/A	N/A	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality
84	Venezuela; central coast Trompis; Prehistoric	NA	N/A	2006	prehistoric	N/A	N/A	N/A	N/A	N/A	Trichechidae; Trichechus manatus	1	N/A	Intermediate data quality

Dataset_ID	Location	Multiple_bones	Site_name	Year_reported	Historical_period	Date_B C_CE	Site_type	Rural_urban	NI SP	NISP _%	Taxonomy	M NI	MNI _%	Data_quality
85	Venezuela; Palmasola	N/A	Palmasola	N/A	Early Classic Maya	250-500 CE	N/A	N/A	N/A	N/A	Trichechidae; Trichechus manatus	N/A	N/A	Intermediate data quality

## 2.2 Bone Count Data – No Context

Dataset_ID	Location	Comments	Reference
86	Caimanes III; Cuba	Archaeofaunal	Vega, J. E. (1990). The archaeology of coastal change, Puerto Rico. University of Florida.
87	Sabaneta de Juandolio; Dominican Republic	Archaeofaunal	Vega, J. E. (1990). The archaeology of coastal change, Puerto Rico. University of Florida.
88	Serrallos; Dominican Republic	Archaeofaunal	Vega, J. E. (1990). The archaeology of coastal change, Puerto Rico. University of Florida.
89	Anadel; Dominican Republic	Archaeofaunal	Vega, J. E. (1990). The archaeology of coastal change, Puerto Rico. University of Florida.
90	Cueva Maria de la Cruz; Puerto Rico	Archaeofaunal	Vega, J. E. (1990). The archaeology of coastal change, Puerto Rico. University of Florida.
91	Ostiones; Puerto Rico	Archaeofaunal	Vega, J. E. (1990). The archaeology of coastal change, Puerto Rico. University of Florida.
92	Las Cucharas; Puerto Rico	Archaeofaunal	Vega, J. E. (1990). The archaeology of coastal change, Puerto Rico. University of Florida.
93	Pitahaya; Puerto Rico	Archaeofaunal	Vega, J. E. (1990). The archaeology of coastal change, Puerto Rico. University of Florida.
94	Playa Blanca; Puerto Rico	Archaeofaunal	Vega, J. E. (1990). The archaeology of coastal change, Puerto Rico. University of Florida.



<b>Dataset_ID</b>	<b>Location</b>	<b>Comments</b>	<b>Reference</b>
<b>95</b>	Isla Verde; Puerto Rico	Archaeofaunal	Vega, J. E. (1990). The archaeology of coastal change, Puerto Rico. University of Florida.
<b>96</b>	Choc; St. Lucia	Archaeofaunal	Vega, J. E. (1990). The archaeology of coastal change, Puerto Rico. University of Florida.
<b>97</b>	Wild Cane Cay	Archaeofaunal	McKillop H.I (1984) Prehistoric Maya Reliance on Marine Resources: Analysis of a Midden from Moho Cay, Belize. Journal of Field Archaeology , Vol. 11, No. 1, pp. 25-35
<b>98</b>	Bay Islands	Archaeofaunal	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. World Archaeology 16, 337– 53.
<b>99</b>	Jamaica	Archaeofaunal	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. World Archaeology 16, 337– 53.
<b>100</b>	St Kitts	Archaeofaunal	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. World Archaeology 16, 337– 53.
<b>101</b>	Grenada	Archaeofaunal	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. World Archaeology 16, 337– 53.
<b>102</b>	Trinidad	Archaeofaunal	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. World Archaeology 16, 337– 53.

Dataset_ID	Location	Comments	Reference
103	San Felipe; Guatemala	Archaeofaunal	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. <i>World Archaeology</i> 16, 337- 53.
104	Vive; Martinique	Archaeofaunal	Mol, A. A. (2011). The Gift of the «Face of the Living»: Shell faces as social valuables in the Caribbean Late Ceramic Age. <i>Journal de la société des américanistes</i> , 97(97-2), 7-43.

## 2.3 Bone Count Data – With Context

Data set_ID	Context	Recovery_method	Analyst	IP_statuses	General_comments	Referenced_in
1	Smithsonian Institution; the Boekelman Shell Heap Expedition of the American Museum of Natural History; the Museum of the American Indian, Heye Foundation.	Smithsonian Institution; the Boekelman Shell Heap Expedition of the American Museum of Natural History; the Museum of the American Indian, Heye Foundation.	Junius Bird; Mr. Mitchell-Hedges and the Smithsonian Institution.	Published; not on display	Manatee bones	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. Smithsonian Miscellaneous Collections.
2	Only a few skeletal fragments from aquatic mammals could be found. All the aquatic mammal remains were identified as from manatees. The skeletal material includes a skull fragment, a rib fragment, a loose tooth, and another unidentified piece of bone; a single thick and polished bone with scratches and blackened edges that was found in a debitage deposit on the dock.	N/A	H. Sorraya Carr	Published	The skeletal material includes a skull fragment, a rib fragment, a loose tooth, and another unidentified piece of bone.	McKillop H.I (1984) Prehistoric Maya Reliance on Marine Resources: Analysis of a Midden from Moho Cay, Belize. Journal of Field Archaeology , Vol. 11, No. 1, pp. 25-35

Data set_ID	Context	Recovery_method	Analysts	IP_statuses	General_comments	Referenced_in
3	Midden; zooarchaeological find	N/A	Heather I. McKillop	Published	Animal remains from midden with butchering marks on them.	McKillop H.I (1984) Prehistoric Maya Reliance on Marine Resources: Analysis of a Midden from Moho Cay, Belize. <i>Journal of Field Archaeology</i> , Vol. 11, No. 1, pp. 25-35
4	Accession YPM.10352, rcvd. via donation, 1993-2003	Accession YPM.10352, rcvd. via donation, 1993-2003	N/A	Published; not on display	Large sea mammal bone fragments; probably 'sea cow' manatee	Yale Collection
5	Archaeological find	N/A	Alvarez-Leon & Maldonado-Pachon	Published	From overview on manatee records for the Colombian Caribbean coast and coastal lowlands	Debrot, D., Caicedo-Herrera, D., Gomez-Camelo, I., Moná-Sanabria, Y., Rosso, C., van der Wal, J. T., & Mignucci-Giannoni, A. A. (2023). The Antillean manatee ( <i>Trichechus manatus manatus</i> ) along the Caribbean coast of Colombia: underused incidental records help identify present and past coastal-lowland hotspots. <i>Marine Mammal Science</i> , 39(1), 322-337.

Data set_ID	Context	Recovery_method	Analyst	IP_statuses	General_comments	Referenced_in
6	Archaeological find	N/A	Alvarez-Leon & Maldonado-Pachon	Published	From overview on manatee records for the Colombian Caribbean coast and coastal lowlands	Debrot, D., Caicedo-Herrera, D., Gomez-Camelo, I., Moná-Sanabria, Y., Rosso, C., van der Wal, J. T., & Mignucci-Giannoni, A. A. (2023). The Antillean manatee ( <i>Trichechus manatus manatus</i> ) along the Caribbean coast of Colombia: underused incidental records help identify present and past coastal-lowland hotspots. <i>Marine Mammal Science</i> , 39(1), 322-337.
7	From published article	N/A	N/A	Published	Manatee skull; one young; one adult	Alvaréz-León, R.; Maldonado-Pachón, H. 2010. El manatí caribeño <i>Trichechus manatus</i> Linnaeus, 1758, en los restos faunísticos del conchero de Puerto Chacho (3300 a.C.), Caribe Colombiano. Boletín Científico Museo Historia Natural Universidad de Caldas 14(2): 101-119
8	Archaeofaunal; In recent excavations carried out in 1998 and 2008 respectively at the sites of Cayo Bariay; abundant remains; in the context of food preparation alongside other animal remains and materials and structures that were used in cooking fires.	N/A	N/A	Published	abundant remains	Roca, E. R., & Iglesias, L. P. (2015). Zooarchaeological Evidence on the Utilisation of Aquatic Mammals in Northern South America and the Caribbean: A Contribution to Long-Term Biological Conservation. <i>Neotropical and Caribbean aquatic mammals</i> , 73.

Data set_ID	Context	Recovery_method	Analyst	IP_statuses	General_comments	Referenced_in
9	Midden; zooarchaeological find	N/A	Paul Hahn	Published	Curated at the Yale Peabody Museum; At least two right radii	Colten, R. H., & Worthington, B. (2019). Museum Collections and Archaic Era Vertebrate Faunal Remains from Cuba. <i>Environmental Archaeology</i> , 24(2), 211-227.
10	Accession YPM.06599, rcvd. via collection, 1957	Accession YPM.06599, rcvd. via collection, 1957	N/A	Published; not on display	Four fragments of cut bone; possibly manatee	Yale Collection
11	From published article	N/A	N/A	Published	Manate rib found in primary burial of a 12 year old child; placed about 25 cm from the skull.	Vazquez, O. J. (2015). Manatíes y delfines en sitios arqueológicos precolombinos de Cuba. <i>Novitates Caribaea</i> , (8), 30-39
12	Remains have been found in the context of food preparation alongside other animal remains and materials and structures that were used in cooking fires.	N/A	N/A	Published	remains	Roca, E. R., & Iglesias, L. P. (2015). Zooarchaeological Evidence on the Utilisation of Aquatic Mammals in Northern South America and the Caribbean: A Contribution to Long-Term Biological Conservation. <i>Neotropical and Caribbean aquatic mammals</i> , 73.
13	Accession YPM.04936, rcvd. via collection, 1935	Accession YPM.04936, rcvd. via collection, 1935	N/A	Published; not on display	Manatee jaw	Yale Collection
14	Accession YPM.04936, rcvd. via collection, 1935	Accession YPM.04936, rcvd. via collection, 1935	N/A	Published; not on display	Large limb bone; possibly manatee	Yale Collection

Data set_ID	Context	Recovery_method	Analyst	IP_statuses	General_comments	Referenced_in
15	Accession YPM.04936, rcvd. via collection, 1935	Accession YPM.04936, rcvd. via collection, 1935	N/A	Published; not on display	Manatee bone fragments	Yale Collection
16	Accession YPM.04723, rcvd. via collection, 1934	Accession YPM.04723, rcvd. via collection, 1934	N/A	Published; not on display	Manatee and fish bones	Yale Collection
17	A "big post" with layers of "fill": bone, but also ash, charcoal, shells and daub.	N/A	Michelle J. LeFebvre	Published	Part of dissertation at the University of Florida	LeFebvre, M. J. (2015). <i>Animals, food, and social life among the pre-Columbian taíno of En Bas Saline, Hispaniola</i> (Doctoral dissertation, University of Florida).
18	Accession YPM.04936, rcvd. via collection, 1935	Accession YPM.04936, rcvd. via collection, 1935	N/A	Published; not on display	Large skull fragment; possibly manatee	Yale Collection
19	Spanish town	44 one-sq m contiguous units were excavated in natural levels, using a 1/4-inch screen to recover artifacts.	J. M. Hamilton	Published	Manatee bone, modified rib (cut)	Reitz, E. J. (1986). Vertebrate Fauna from Locus 39, Puerto Real, Haiti. <i>Journal of Field Archaeology</i> , 13(3), 317-328.
20	Exchanged with Daniel Bruce	N/A	Daniel Bruce	Published; not on display	Animal remains; tip of a manatee rib bone	The British Museum; under materials for dugong bone; Am1974,02.5906; RH - 1546

Data set_ID	Context	Recovery_method	Analyst	IP_statuses	General_comments	Referenced_in
21	Exchanged with Daniel Bruce	N/A	Daniel Bruce	Published; not on display	Animal remains; manatee bone	The British Museum; under materials for dugong bone; Am1974,02.5913; R - 2783
22	Exchanged with Daniel Bruce	N/A	Daniel Bruce	Published; not on display	Animal remains; manatee rib bone	The British Museum; under materials for mammal bone; Am1974,02.3171; R - 427
23	Exchanged with Daniel Bruce	N/A	Daniel Bruce	Published; not on display	Animal remains; manatee rib bone	The British Museum; under materials for mammal bone; Am1974,02.3145; R - 427
24	Exchanged with Daniel Bruce	N/A	Daniel Bruce	Published; not on display	Animal remains; burnt manatee bone	The British Museum; under materials for dugong bone; Am1974,02.5911; WM - 430
25	Exchanged with Daniel Bruce	N/A	Daniel Bruce	Published; not on display	Animal remains; manatee bone	The British Museum; under materials for dugong bone; Am1974,02.5910; WM - 431
26	Accession YPM.07610, rcvd. via collection, 1991	Accession YPM.07610, rcvd. via collection, 1991	N/A	Published; not on display	Flat bone (possibly manatee); 2 pieces mend	Yale Collection
27	Exchanged with Daniel Bruce	N/A	Daniel Bruce	Published; not on display	Animal remains; broken manatee bone	The British Museum; under materials for dugong bone; Am1974,02.5866; V - 2706
28	Exchanged with Daniel Bruce	N/A	Daniel Bruce	Published; not on display	Animal remains; manatee flipper bone	The British Museum; under materials for dugong bone; Am1974,02.5894; V - 2772
29	Exchanged with Daniel Bruce	N/A	Daniel Bruce	Published; not on display	Animal remains; manatee flipper bone	The British Museum; under materials for dugong bone; Am1974,02.5891; V - 2771
30	Exchanged with Daniel Bruce	N/A	Daniel Bruce	Published; not on display	Animal remains; broken manatee or turtle bone	The British Museum; under materials for dugong/turtle bone; Am1974,02.5923; V - 2781



Data set_ID	Context	Recovery_method	Analyst	IP_statuses	General_comments	Referenced_in
31	Occupational mound	N/A	Gene Shev, Romaine Thomas & Zachary Beier	Published	A heavily degraded rib fragment	Shev, E. T., Thomas, R., & Beier, Z. (2022). Zooarchaeological and isotopic findings from White Marl, Jamaica: insights on indigenous human-animal interactions and evidence for the management of Jamaican hutias. <i>Journal of Caribbean Archaeology</i> , 22, 1-30.
32	A Late Preclassic Period (450 BC - AD 150) shell midden yielded 1 manatee vertebra, interpreted as representing 1 manatee; Wing found it at present day Cancun.	N/A	Elizabeth Wing	Published	One manatee vertebra	McKillop H.I (1984) Prehistoric Maya Reliance on Marine Resources: Analysis of a Midden from Moho Cay, Belize. <i>Journal of Field Archaeology</i> , Vol. 11, No. 1, pp. 25-35 Published by: Taylor & Francis, Ltd. Stable URL: <a href="https://www.jstor.org/stable/529338">https://www.jstor.org/stable/529338</a> ; McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. <i>World Archaeology</i> 16, 337– 53.
33	A sample that was excavated by W.J. Folan and his team of the Universidad Autónoma de Campeche between 2003 and 2005.	N/A	N/A	Published	Only four manatee bone fragments were discovered in this sample, three within the contents of a big midden that was formed adjacent to the domestic group no. 5, an important residential group situated relatively near the sea, and another	Muñoz, A. S., Götz, C. M., & Roca, E. R. (2014). Introduction: Neotropical and Caribbean Aquatic Mammals, in <i>Neotropical and Caribbean Aquatic Mammals</i> , 213.

Data set_ID	Context	Recovery_method	Analyst	IP_statuses	General_comments	Referenced_in
					adjacent to burial 6 located in the domestic structure 2A of the architectural group no. 8. The specimens derive from the appendicular skeleton, the cranium and axial skeleton, none does have cut marks or other traces directly related to human activities, despite their location in archaeological layers.	

Data set_ID	Context	Recovery_method	Analyst	IP_statuses	General_comments	Referenced_in
34	A small island occupied by traders with a close connection to the nearby urban center of Chichen Itza, similar to Xcambo. At Isla Cerritos, two excavation campaigns were undertaken, one between 1984 and 1985 by the CRY-INAH and the New College of the University of South Florida (now New College of Florida), and another between 2006 and 2007 by the Facultad de Ciencias Antropológicas, Universidad Autónoma de Yucatán.	N/A	H. Sorraya Carr	Published	69 (+1) fragments of manatee bone in the Isla Cerritos sample; represent fairly the whole skeleton; since fragments of the skull (n = 1); vertebrae (n = 7); ribs (n = 15), limb girdle (n = 1) and limbs (n = 41) were found among the material. Only three vertebrae fragments showed gouges, scrapes or scratches that Carr identified as butchery marks, but a total of 49 fragments (71% of the total NISP for manatee) were thermoaltered; an appendicular bone fragment and a vertebrae fragment from a manatee.	Muñoz, A. S., Götz, C. M., & Roca, E. R. (2014), in Neotropical and Caribbean Aquatic Mammals.

Data set_ID	Context	Recovery_method	Analyst	IP_statuses	General_comments	Referenced_in
35	Excavated in a test pit as part of the project "The northwestern lowlands of the Maya area" under the direction of Lorenzo Ochoa (Centro de Estudios Mayas of the Universidad Nacional Autónoma de México).	N/A	biologist Norma Valentín of the Laboratory of Paleozoology of the Instituto Nacional de Antropología e Historia (Mexico).	Published	Among the specimens was a wornout rib of sea cow, in the shape of forearm and hand with the palm upwards.	Muñoz, A. S., Götz, C. M., & Roca, E. R. (2014), in Neotropical and Caribbean Aquatic Mammals.
36	Domestic settlement zones	hand-collected and sieved	Marilyn A. Masson & Carlos Peraza Lope	Published	Total number of identified bone fragments per sample taken.	Masson, M. A., & Lope, C. P. (2008). Animal use at the Postclassic Maya center of Mayapán. <i>Quaternary International</i> , 191(1), 170-183.
37	From published book	N/A	N/A	Published	Bone	Emery, K. F., & Gotz, C. M. (Eds.). (2013). The archaeology of Mesoamerican animals (Vol. 1). Lockwood Press.
38	From published book	N/A	N/A	Published	Bone	Emery, K. F., & Gotz, C. M. (Eds.). (2013). The archaeology of Mesoamerican animals (Vol. 1). Lockwood Press.

Data set_ID	Context	Recovery_method	Analyst	IP_statuses	General_comments	Referenced_in
39	Oxkintok was a middle sized Maya settlement, mainly occupied between the Early and Late Classic Period. Offering in form of a large ceramic vessel found in one of the main architectural groups of the site; the May group; included multiple bone fragments.	N/A	N/A	Published	multiple bone fragments	Muñoz, A. S., Götz, C. M., & Roca, E. R. (2014), in Neotropical and Caribbean Aquatic Mammals.
40	A site situated at approximately 80 miles to the south of Cancun on the shore. The context information indicates that the innominate was found in the fill material of terrace no. 2; no additional data is available.	N/A	N/A	Published	Investigations in the 70's revealed a sea cow innominate (pelvis) fragment from this site	Muñoz, A. S., Götz, C. M., & Roca, E. R. (2014), in Neotropical and Caribbean Aquatic Mammals.
41	From published book	2003 excavation	Peres 2008	Published	Bone	Emery, K. F., & Gotz, C. M. (Eds.). (2013). The archaeology of Mesoamerican animals (Vol. 1). Lockwood Press; Peres 2008

Data set_ID	Context	Recovery_method	Analysts	IP_statuses	General_comments	Referenced_in
42	Situated on a small peninsula at the east of the northern coast of the Peninsula of Yucatán and occupied during the Terminal Classic period. Yet not further detailed, Eaton, states that he has found numerous manatee bone fragments in the 35 middens that were surveyed during his pivotal study of the northern and western shore of the Yucatán peninsula.	N/A	N/A	Published	one manatee rib fragment	Muñoz, A. S., Götz, C. M., & Roca, E. R. (2014), in Neotropical and Caribbean Aquatic Mammals.
43	Excavated in the 1990's by the Instituto Nacional de Antropología e Historia (Mexico), is an archaeological site situated on a small island in the middle of ancient salty marshes. The site was inhabited first as a small fishing village, and later as a long distance salt trading port. Xcambo's archaeological manatee remains come up to the date from a relatively small portion east to the site's center, where most probably the wealthy	N/A	Sierra Sosa; Jiménez Cano (2009)	Published	Only two vertebrae fragments and a rib fragment from manatee were found in the platform fills of Xcambo's western part; a nearly complete manatee humerus that was chewed by a dog at its proximal end and damaged by surface fire on its medial surface was also discovered.	Muñoz, A. S., Götz, C. M., & Roca, E. R. (2014), in Neotropical and Caribbean Aquatic Mammals.

Data set_ID	Context	Recovery_method	Analyst	IP_statuses	General_comments	Referenced_in
	<p>inhabitants of the island lived, especially during the Late Classic period. None of the found fragments bore direct traces of human activities, all were found in the construction fill of the domestic platforms west of the site's center (as were the manatee bones), and some specimens showed tooth marks attributed to dogs.</p>					
44	From published book	multiple	<p>Instituto Nacional de Antropología e Historia; the Universidad Autónoma de Yucatán; the Universidad Autónoma de Campeche; and Southern Methodist University</p>	Published	Bone	<p>Emery, K. F., &amp; Gotz, C. M. (Eds.). (2013). The archaeology of Mesoamerican animals (Vol. 1). Lockwood Press.</p>

Data set_ID	Context	Recovery_method	Analyst	IP_statuses	General_comments	Referenced_in
45	From published book	multiple	Instituto nacional de Antropología e Historia; the Universidad Autónoma de Yucatán; the Universidad Autónoma de Campeche; and Southern Methodist University	Published	Bone	Emery, K. F., & Gotz, C. M. (Eds.). (2013). The archaeology of Mesoamerican animals (Vol. 1). Lockwood Press.
46	Manatee meat 11% of the meat diet.	N/A	N/A	Published	Manatee meat 11% of the meat diet.	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. <i>World Archaeology</i> 16, 337– 53.
47	Exavated by Linares and Ranere in the 1970 (s)	N/A	Linares and Ranere	Published; not on display	Manatee bones	Wake, T. A., Doughty, D. R., & Kay, M. (2013). Archaeological investigations provide late Holocene baseline ecological data for Bocas del Toro, Panama. <i>Bulletin of Marine Science</i> , 89(4), 1015-1035.



Data set_ID	Context	Recovery_method	Analyst	IP_statuses	General_comments	Referenced_in
48	Exavated by Linares and Ranere in the 1970 (s)	N/A	Linares and Ranere	Published; not on display	Manatee bones	Wake, T. A., Doughty, D. R., & Kay, M. (2013). Archaeological investigations provide late Holocene baseline ecological data for Bocas del Toro, Panama. <i>Bulletin of Marine Science</i> , 89(4), 1015-1035.
49	Exavated by the universities of Harvard and Pennsylvania.	N/A	N/A	Published; not on display	Manatee ribs (carved)	Cooke, R. G. (2004). Rich, poor, shaman, child: Animals, rank, and status in the 'Gran Coclé' culture area of pre-Columbian Panama. <i>Behaviour behind Bones. The Zooarchaeology of Ritual, Religion, Status and Identity</i> , 271-284.
50	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
51	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
52	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
53	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection

Data set_ID	Context	Recovery_method	Analyst	IP_statuses	General_comments	Referenced_in
54	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
55	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
56	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee tooth	Yale Collection
57	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
58	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	1 large bone in 4 pieces; probably manatee cervical vertebra	Yale Collection
59	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	1 large bone in 4 pieces; probably manatee cervical vertebra	Yale Collection
60	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Unknown bone	Yale Collection
61	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib	Yale Collection

Data set_ID	Context	Recovery_method	Analyst	IP_statuses	General_comments	Referenced_in
62	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Implement of possibly manatee rib	Yale Collection
63	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
64	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
65	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
66	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
67	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
68	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
69	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection

Data set_ID	Context	Recovery_method	Analyst	IP_statuses	General_comments	Referenced_in
70	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Rectangular implement of manatee rib	Yale Collection
71	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
72	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
73	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
74	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
75	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
76	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
77	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection

Data set_ID	Context	Recovery_method	Analyst	IP_statuses	General_comments	Referenced_in
78	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	Manatee rib (worked)	Yale Collection
79	Accession YPM.04849, rcvd. via collection, 1934	Accession YPM.04849, rcvd. via collection, 1934	N/A	Published; not on display	More than 25 bone fragments; mostly manatee	Yale Collection
80	Bergen University	Bergen University	Léanna F. St-Victor	Published; not on display	Animal remains; almost complete skeleton of a manatee; missing an arm and tip of tail; approximately 217 cm	Bergen University
81	Bergen University	Bergen University	Léanna F. St-Victor	Published; not on display	Animal remains; incomplete skeleton of a manatee or possibly dugong	Bergen University
82	From published map	N/A	Antczak & Antczak	Published	Bone	Debrot, A. O., Eybrecht, L., Dawson, E., Cremer, J., & Stelten, R. (2020). The Antillean manatee ( <i>Trichechus manatus manatus</i> ) in the southern Caribbean: A compilation and review of records for the Dutch Leeward islands and the central Venezuelan coast. <i>Marine Mammal Science</i> , 36(1), 324-333.

Data set_ID	Context	Recovery_method	Analysts	IP_statuses	General_comments	Referenced_in
83	From published map	N/A	Antczak & Antczak	Published	Bone	Debrot, A. O., Eybrecht, L., Dawson, E., Cremer, J., & Stelten, R. (2020). The Antillean manatee ( <i>Trichechus manatus manatus</i> ) in the southern Caribbean: A compilation and review of records for the Dutch Leeward islands and the central Venezuelan coast. <i>Marine Mammal Science</i> , 36(1), 324-333.
84	From published map	N/A	Antczak & Antczak	Published	Bone	Debrot, A. O., Eybrecht, L., Dawson, E., Cremer, J., & Stelten, R. (2020). The Antillean manatee ( <i>Trichechus manatus manatus</i> ) in the southern Caribbean: A compilation and review of records for the Dutch Leeward islands and the central Venezuelan coast. <i>Marine Mammal Science</i> , 36(1), 324-333.
85	N/A	N/A	N/A	Published	N/A	Debrot A.O., Van Buurt G. , Caballero A. and Aatgarza A.A. (2006) A historical review of records of the West Indian manatee and the American crocodile in the Dutch Antilles Caribbean Journal of Science, Vol. 42, No. 2, College of Arts and Sciences University of Puerto Rico, Mayaguez

## 2.4 Bones Compared to Other Taxa

Dataset_ID	Location	Year_reported	Historical_period	Date_AD	Site_type	Referenced_in
37	Mexico; Mayapan; Q-54 hall	1962	postclassic maya	1200-1440	urban; political center	Emery, K. F., & Gotz, C. M. (Eds.). (2013). The archaeology of Mesoamerican animals (Vol. 1). Lockwood Press.
38	Mexico; Mayapan; Q-95 burial shaft temple	1962	postclassic maya	1200-1440	urban; political center	Emery, K. F., & Gotz, C. M. (Eds.). (2013). The archaeology of Mesoamerican animals (Vol. 1). Lockwood Press.
41	Mexico; Veracruz; Tres Zapotes	2003	middle to late preclassic maya	100-300	built on terraces and floodplains; urban; political center	Emery, K. F., & Gotz, C. M. (Eds.). (2013). The archaeology of Mesoamerican animals (Vol. 1). Lockwood Press; Peres 2008
44	Northern Maya lowlands; Champotón; group 5 midden	multiple	late postclassic	1250-1500	coast; urban; trade center	Emery, K. F., & Gotz, C. M. (Eds.). (2013). The archaeology of Mesoamerican animals (Vol. 1). Lockwood Press.
45	Northern Maya lowlands; Xcambó; West Plaza structure fill	multiple	early to late classic maya	600-850	urban; coastal trade center	Emery, K. F., & Gotz, C. M. (Eds.). (2013). The archaeology of Mesoamerican animals (Vol. 1). Lockwood Press.

Data set_ID	Total_manatee_NISP	NISP_%	Taxonomy	Total_NISP_of_taxa_identified_at_site	MNI_of_mammals	Minimum_number_of_identified_fauna	MNI_trichechus_manatus	MNI_%	weight_bone_g	weight_bone_%	biomass_bone_kg	biomass_bone_%
37	2	0.02	Trichechidae; Trichechus manatus	67,107; 6345	N/A	20	1	N/A	N/A	N/A	N/A	N/A
38	1	0.03	Trichechidae; Trichechus manatus	67,107; 3218	N/A	20	1	N/A	N/A	N/A	N/A	N/A
41	4	3.05	Trichechidae; Trichechus manatus	5689; mammalia	N/A	17	1	10.00	55.09	21.39	0.97	24.43
44	2	N/A	Trichechidae; Trichechus manatus	1717	21	28	1	N/A	N/A	N/A	N/A	N/A
45	2	N/A	Trichechidae; Trichechus manatus	1383	26	28	1	N/A	N/A	N/A	N/A	N/A



## 2.5 Bone Count – Detailed Measurements

Data set_ID	Location	Multiple_bones	Year_reported	Date_AD	Site_type	Context	Referenced_in	General_comments
3	Belize; Moho Cay; known locally as; Wild Orchid Caye; Middle Classic Maya	yes	1984	400-700	Coastal Classic Mayan settlement	Midden; zooarchaeological find	McKillop H.I (1984) Prehistoric Maya Reliance on Marine Resources: Analysis of a Midden from Moho Cay, Belize. <i>Journal of Field Archaeology</i> , Vol. 11, No. 1, pp. 25-35	Animal remains from midden with butchering marks on them.
17	Haiti; En Bas Saline; Garden E; Pit Feature 49: FS# 7469	no	2015	1250-1530	Big post	A "big post" with layers of "fill": bone, but also ash, charcoal, shells and daub.	LeFebvre, M. J. (2015). <i>Animals, food, and social life among the pre-Columbian taíno of En Bas Saline, Hispaniola</i> (Doctoral dissertation, University of Florida).	Part of dissertation at the University of Florida
19	Haiti; Puerto Real; Locus 39; post-colonial	NA	1981	1500-1600	Town	Spanish town	Reitz, E. J. (1986). Vertebrate Fauna from Locus 39, Puerto Real, Haiti. <i>Journal of Field Archaeology</i> , 13(3), 317-328.	Manatee bone, modified rib (cut)
41	Mexico; Veracruz; Tres Zapotes	yes	2003	100-300	built on terraces and floodplains; urban; political center	From published book; 2003 excavation	Emery, K. F., & Gotz, C. M. (Eds.). (2013). <i>The archaeology of Mesoamerican animals</i> (Vol. 1). Lockwood Press; Peres 2008	Bone

Data set_ID	Total_manatee_NISP	NISP_%	Taxonomy	MNI_trichechus_manatus	MNI_%	weight_bone_g	weight_meat_g	weight_bone_%	weight_meat_%	biomass_bone_kg	biomass_meat_kg	biomass_bone_%
3	N/A	N/A	Trichidae ; Trichechus manatus	N/A	N/A	8070.0	8070.0	52.6	89.4	90.8	90.8	N/A
17	1	<1	Trichidae ; Trichechus manatus	1	0.1	1.5	N/A	N/A	N/A	N/A	N/A	N/A
19	1	<0.01	Trichidae ; Trichechus manatus	1	1.7	365.4	N/A	0.18	N/A	5.33	N/A	0.3
41	4	3.05	Trichidae ; Trichechus manatus	1	10.00	55.09	N/A	21.39	N/A	0.97	N/A	24.43

Appendix III  
Archaeological Artefacts Database

### 3.1 Archaeological Objects – Data

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
1	Artemis Gallery	N/A	Caribbean; or Florida	N/A	Pre-Colombian Taíno	1000-1500 AD	Manatee bone	Vomiting spatula; zoomorphic	Item used during cohoba rituals	N/A	N/A	Intermediate data quality
2	Artemis Gallery	N/A	Caribbean	N/A	Taíno	1000-1400 AD	Manatee bone	Vomiting Spatula; Zoomorphic	Item used in cohoba ritual during purging.	N/A	N/A	Intermediate data quality
3	Artemis Gallery	N/A	Caribbean/Florida	N/A	Taíno	1000-1500 AD	Manatee bone	Handle; Vomiting spatula; anthropomorphic	Item used in cohoba ritual during purging	N/A	N/A	Intermediate data quality
4	Brooklyn Museum	1997.175.2	West Indies	N/A	Taíno	1100-1400 AD	Bone	Cohoba spoon; antropomorphic	Item used during cohoba rituals	<a href="#">Brooklyn Museum</a>	N/A	Intermediate data quality
5	Brooklyn Museum	1997.175.1	West Indies	N/A	Taíno	1100-1400 AD	Bone	Vomiting spatula; antropozoomorphic	Item used in cohoba ritual during purging	<a href="#">Brooklyn Museum</a>	N/A	Intermediate data quality
6	Caribbean Ties Exhibit - NEXUS1492	N/A	Lesser Antilles; Saba; Kelbey's Ridge 2; F068	1988/1991	Taíno	1300-1350 AD	Manatee bone	Cohoba inhaler; zoomorphic	Inhalor used during cohoba rituals; the cohoba was most likely inhaled through two hollow bird bones put into holes of the gills; representation of a fish in connection with the inhalation of hallucinogenic	Hoogland, M. C. P. L., & Hofman, C. (1993). Kelbey's Ridge 2, A 14th Century Taíno Settlement on Saba, Netherlands Antilles. Analecta Praehistorica Leidensia 26  The end of our third decade: Papers written on the occasion of the 30th anniversary of the Institute of prehistory, volume II, 26, 163-181.	N/A	Reliable data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
									cohoba is uncommon; two similar finds; Anguilla and Puerto Rico			
7	del Instituto Cubano de Antropología	ICAN02; 2487 (other number: 289 Catálogo col. García Feria; 2487)	Cuba; Banes; Holguin province; Yaguajay	N/A	Possibly Taíno	N/A	Manatee bone	Vomiting spatula; Anthropomorphic	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, Cruz Ramírez & Guarch Rodríguez, (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
8	del Instituto Cubano de Antropología	ICAN17; número en la colección 27673	Cuba; Banes; Holguin province	N/A	Possibly Taíno	N/A	Manatee bone	Zoomorphic Ceremonial Pendant	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
9	Departamento Centro Oriental de Arqueología	(Registry of Cultural Assets) 11; AQ - 25; 5 - 01	Cuba; Banes; Holguin province; El Chorro de Maíta	N/A	Taíno	N/A	Manatee bone	Full body earring	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
10	Departamento Centro Oriental	(Registry of Cultural	Cuba; Banes; Holguin province	N/A	Possibly Taíno	N/A	Manatee bone	Vomiting Spatula; Anthrop	All information about the description of the artifacts has been taken directly	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos	Pérez Iglesias, L. D. R., Cruz	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
	de Arqueología	Assets ) 11; AQ - 36- 5 - 01	; El Chorro de Maí					omorphi c	from the referenced article; as no picture was presented.	de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Ramírez, P, & Guarch Rodríguez, J.	
11	Direction Régional des Affaires Culturelles	N/A	Guadeloupe; Morel	N/A	Saladoid	250 BC - 650 AD	Ceramic	Adorno	While manatees appear on the pottery of both early ceramic cultures of the Antilles; they do not appear in the ceramics of the Lower Orinoco.	Waldron, L. (2011). Geographic distributions of zoomorphic motifs in saladoid ceramics. Caribbean Conections, 1(2).	Lawrence Waldron	Reliable data quality
12	Direction Régional des Affaires Culturelles	N/A	Guadeloupe; Gare Maritime	N/A	Saladoid	250 BC - 650 AD	Ceramic	Adorno	While manatees appear on the pottery of both early ceramic cultures of the Antilles; they do not appear in the ceramics of the Lower Orinoco.	Waldron, L. (2011). Geographic distributions of zoomorphic motifs in saladoid ceramics. Caribbean Conections, 1(2).	Lawrence Waldron	Reliable data quality
13	Efrain Irizarry de Lajas collection	N/A	Puerto Rico	N/A	Taíno	N/A	Manatee bone	Cohoba inhaler; zoomorphic	no comment	Hoogland, M. C. P. L., & Hofman, C. (1993). Kelbey's Ridge 2, A 14th Century Taíno Settlement on Saba, Netherlands Antilles. Analecta Praehistorica Leidensia 26  The end of our third decade: Papers written on the occasion of the 30th anniversary of the Institute of prehistory, volume II, 26, 163-181; in Alegría, R. E. (1981). El uso de la incrustación en la escultura de los indios antillanos. Centro de Estudios Avanzados de Puerto Rico y el Caribe.	N/A	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
14	Fundación García Arevalo	N/A	La Cúcuta; Dominican Republic	N/A	Taino	N/A	Manatee bone	Cohoba inhaler; Anthropomorphic	Inhalor used during cohoba rituals	N/A	N/A	Intermediate data quality
15	Fundación García Arevalo	N/A	Hispaniola; Dominican Republic	N/A	Taino	N/A	Manatee bone	Vomiting spatula; zoomorphic	Item used in cohoba ritual during purging	N/A	N/A	Intermediate data quality
16	Musée du quai Branly	71.1939.41.190	Lesser Antilles; Martinique; Anse-Belleville	N/A	Taino	1200-1492 AD	Manatee bone	Handle; Vomitive spatula; anthropomorphic	Item used in cohoba ritual during purging	<a href="#">musée du quai Branly - Jacques Chirac - Explore collections</a>	Eugène Revert	Reliable data quality
17	Museo Antropológico Montané	3022 (4-05)	Cuba; Banes; Holguin province; Mulas	N/A	Taino	N/A	Manatee bone	Handle; Vomiting Spatula; Anthropomorphic	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarach Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarach Rodríguez, J.	Intermediate data quality
18	Museo Antropológico Montané	3026	Cuba; Banes; Holguin province	N/A	N/A	N/A	Manatee bone	Handle; Vomiting Spatula; Anthropomorphic	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarach Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarach Rodríguez, J.	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
19	Museo Antropológico Montané	3024	Cuba; Banes; Holguin province	N/A	N/A	N/A	Manatee bone	Handle; Vomiting Spatula; no motif	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
20	Museo Antropológico Montané	4375 (4-06)	Cuba; Banes; Holguin province ; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Handle; Vomiting Spatula; ornithomorphic	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
21	Museo Antropológico Montané	3028	Cuba; Banes; Holguin province	N/A	Possibly Taíno	N/A	Manatee bone	Vomiting Spatula; no motif	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
22	Museo Antropológico Montané	4126	Cuba; Banes; Holguin province	N/A	Possibly Taíno	N/A	Manatee bone	Vomiting Spatula; no motif	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality



Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
23	Museo Antropológico Montané	3027	Cuba; Banes; Holguin province ; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Vomiting Spatula; no motif	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
24	Museo Antropológico Montané	3030	Cuba; Banes; Holguin province ; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Vomiting Spatula; no motif	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
25	Museo Antropológico Montané	3031	Cuba; Banes; Holguin province ; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Vomiting Spatula; no motif	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
26	Museo Antropológico Montané	3032	Cuba; Banes; Holguin province ; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Vomiting Spatula; no motif	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
27	Museo Antropológico Montané	3029	Cuba; Banes; Holguin province ; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Vomiting Spatula; no motif	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
28	Museo Antropológico Montané	3033	Cuba; Banes; Holguin province ; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Vomiting Spatula; no motif	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
29	Museo Antropológico Montané	3025	Cuba; Banes; Holguin province ; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Vomiting Spatula; no motif	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
30	Museo Antropológico Montané	429 ;other numbers; 3528	Cuba; Banes; Holguin province ; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Vomiting Spatula; no motif	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
31	Museo Antropológico Montané	3023 (4-02)	Cuba; Banes; Holguin province ; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Vomiting spatula; no motif	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
32	Museo del Gabinete de Arqueología de la oficina de Historia de Ciudad Habana	GA 1-255	Cuba; Banes; Holguin province ; Loma de los Cateyes	N/A	Taíno	N/A	Manatee bone	Handle; Vomiting Spatula; Anthropomorphic	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
33	Museo del Gabinete de Arqueología de la oficina de Historia de Ciudad Habana	GA 1-257	Cuba; Banes; Holguin province ; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Handle; Vomiting Spatula; Anthropomorphic	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
34	Museo del Gabinete de Arqueolo	GA 1-222 ;other number;	Cuba; Banes; Holguin province	N/A	Possibly Taíno	N/A	Manatee bone	Vomiting Spatula; Anthropomorphic	All information about the description of the artifacts has been taken directly from the referenced	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente	Pérez Iglesias, L. D. R., Cruz Ramírez,	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
	gía de la oficina de Historia de Ciudad Habana	2757-30-9387							article; as no picture was presented.	de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	P, & Guarch Rodríguez, J.	
35	Museo del Gabinete de Arqueología de la oficina de Historia de Ciudad Habana	1-260	Cuba; Banes; Holguin province ; Mulas	N/A	Possibly Taíno	N/A	Manatee bone	Vomiting Spatula; Anthropomorphic	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
36	Museo del Gabinete de Arqueología de la oficina de Historia de Ciudad Habana	GA 1-266	Cuba; Banes; Holguin province ; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Vomiting spatula; no motif	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
37	Museo del Hombre Dominicano	N/A	Hispaniola; Dominican Republic	N/A	Taíno	N/A	Wood and manatee bone	Duho; anthropomorphic	A carved ritual seat made of a single piece of wood	N/A	N/A	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
38	Museo del Hombre Dominicano	N/A	Hispaniola; Dominican Republic	N/A	Taíno	N/A	Manatee bone	Effigy; anthropomorphic	A container or vessel representing a human or animal; possibly used for incense	N/A	N/A	Intermediate data quality
39	Museo Indocubano Baní	MIB (5 – 14)	Cuba; Banes; Holguin province ; Esterito	N/A	Possibly Taíno	N/A	Manatee bone	Figurine	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
40	Museo Indocubano Baní	524	Cuba; Banes; Holguin province ; El Salado	N/A	N/A	N/A	Manatee bone	Fragment of body adornment	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
41	Museo Indocubano Baní	MIB (5-3); CP Orenco Miguel (12)	Cuba; Banes; Holguin province ; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Fragment with head figure; undefined piece	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
42	Museo Indocubano Baní	529	Cuba; Banes; Holguin province	N/A	N/A	N/A	Manatee bone	Fragment; Vomiting Spatula; no motif	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
43	Museo Indocubano Baní	MIB Baní (5-39)	Cuba; Banes; Holguin province	N/A	Taíno	N/A	Manatee bone	Handle; Vomiting Spatula; Anthropomorphic	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
44	Museo Indocubano Baní	MIB (5-7). C.P. Orenco Miguel (19)	Cuba; Banes; Holguin province; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Handle; Vomiting Spatula; Anthropomorphic	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
45	Museo Indocubano Baní	68	Cuba; Banes; Holguin province; Puerto Rico	N/A	N/A	N/A	Manatee bone	Spoon	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
46	Museo Indocubano Baní	520 B	Cuba; Banes; Holguin province ; Loma Los Carbones	N/A	N/A	N/A	Manatee bone	Undefined artifact	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
47	Museo Indocubano Baní	523	Cuba; Banes; Holguin province ; Mulas	N/A	N/A	N/A	Manatee bone	Undefined artifact	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
48	Museo Indocubano Baní	67	Cuba; Banes; Holguin province	N/A	N/A	N/A	Manatee bone	Undefined artifact	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
49	Museo Indocubano Baní	518	Cuba; Banes; Holguin province ; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Undefined artifact	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality

Data_set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
50	Museo Indocubano Baní	520 A	Cuba; Banes; Holguin province ; Loma Los Carbones	N/A	Possibly Taíno	N/A	Manatee bone	Vomiting spatula; Anthropomorphic	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
51	Museo Indocubano Baní	MIB (5-6); CP Orenco Miguel (18)	Cuba; Banes; Holguin province ; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Vomiting spatula; Anthropomorphic	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
52	Museo Indocubano Baní	MIB Orenco Miguel 629	Cuba; Banes; Holguin province	N/A	Possibly Taíno	N/A	Manatee bone	Vomiting Spatula; Anthropomorphic	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
53	Museo Indocubano Baní	MIB (5 - 2)	Cuba; Banes; Holguin province ; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Vomiting Spatula; Anthropomorphic	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality



Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
54	Museo Indocubano Baní	(5 - 5). C.P. Orenco Miguel (1159) MAM 3028	Cuba; Banes; Holguín province ; Loma de los Cateyes	N/A	Possibly Taíno	N/A	Manatee bone	Vomiting Spatula; no motif	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
55	Museo Indocubano Baní	MIB (5 - 15); Colección Privada Orenco Miguel Alonso (799)	Cuba; Holguín province ; Loma de Baní	N/A	Possibly Taíno	N/A	Manatee bone	Vomiting Spatula; no motif	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
56	Museo Indocubano Baní	MIB (5 - 18). C.P. Orenco Miguel (21)	Cuba; Banes; Holguín province ; El Potrero del Mango	N/A	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Vomiting Spatula; no motif	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe, 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
57	Museo Peabody de la Universidad de Yale	ANT.100029.001	Cuba; Banes; Holguin province ; El Potrero del Mango; Excavation 3; Section E-2; Level 0.0-0.25m	1940	Ostionoid; Taíno	1100-1500 AD	Manatee bone	Ladle	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). <i>Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe</i> , 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
58	Museo Peabody de la Universidad de Yale	ANT.100030	Cuba; Banes; Holguin province ; Varela 3	N/A	N/A	N/A	Manatee bone	Needle	All information about the description of the artifacts has been taken directly from the referenced article; as no picture was presented.	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J. (2017). Osteoarqueología de artefactos y otros elementos óseos de la región de Banes (nororiente de Cuba). <i>Cuba Arqueológica: Revista Digital de Arqueología de Cuba y el Caribe</i> , 10(2).	Pérez Iglesias, L. D. R., Cruz Ramírez, P., & Guarch Rodríguez, J.	Intermediate data quality
59	N/A	N/A	Lesser Antilles	N/A	Saladoid	250 BC - 650 AD	Ceramic	Adorno	While manatees appear on the pottery of both early ceramic cultures of the Antilles; they do not appear in the ceramics of the Lower Orinoco.	Chanlatte Baik, Luis, and Yvonne Narganes Storde (editors) (2002) <i>La Cultura Saladoide en Puerto Rico</i> . Museo de Historia, Antropología y Arte, Universidad de Puerto Rico, San Juan, Puerto Rico; in Waldron, L. (2011). Geographic distributions of zoomorphic motifs in saladoid ceramics. <i>Caribbean Connections</i> , 1(2).	N/A	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
60	N/A	N/A	Panama; El Hatillo; Gran Cocle	1960 (s)	Coclé	200 BC - 1550 AD	Manatee bone	Blades of manatee bone	no comment	Cooke, R. G. (2004). Rich, poor, shaman, child: Animals, rank, and status in the 'Gran Coclé' culture area of pre-Columbian Panama. Behaviour behind Bones. The Zooarchaeology of Ritual, Religion, Status and Identity, 271-284.	N/A	Intermediate data quality
61	N/A	N/A	Belize; island; midden; Moho Cay	1979	Classic; Postclassic Period; Late Classic Tikal; Maya	400-700 AD	Manatee rib bone	Carved boat models	Actual boat forms; used for fishing and transportation; models from Moho Cay and one probably of manatee bone Altun Ha; form is identical to pictorial representations of similar boats from the Postclassic Period; and from Late Classic Tikal.	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. World Archaeology 16, 337- 53; in McKillop H.I (1984) Prehistoric Maya Reliance on Marine Resources: Analysis of a Midden from Moho Cay, Belize. Journal of Field Archaeology , Vol. 11, No. 1, pp. 25-35	Heather I. McKillop	Intermediate data quality
62	N/A	N/A	Belize; island; midden; Moho Cay	1979	Classic; Postclassic Period; Late Classic Tikal; Maya	400-700 AD	Manatee rib bone	Carved boat models	Actual boat forms; used for fishing and transportation; models from Moho Cay and one probably of manatee bone Altun Ha; form is identical to pictorial representations of similar boats from the Postclassic Period; and from Late Classic Tikal.	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. World Archaeology 16, 337- 53; in McKillop H.I (1984) Prehistoric Maya Reliance on Marine Resources: Analysis of a Midden from Moho Cay, Belize. Journal of Field Archaeology , Vol. 11, No. 1, pp. 25-35	Heather I. McKillop	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
63	N/A	N/A	Belize; island; midden; Moho Cay	1979	Classic; Postclassic Period; Late Classic Tikal; Maya	400-700 AD	Manatee rib bone	Carved boat models	Actual boat forms; used for fishing and transportation; models from Moho Cay and one probably of manatee bone Altun Ha; form is identical to pictorial representations of similar boats from the Postclassic Period; and from Late Classic Tikal.	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. <i>World Archaeology</i> 16, 337– 53; in McKillop H.I (1984) Prehistoric Maya Reliance on Marine Resources: Analysis of a Midden from Moho Cay, Belize. <i>Journal of Field Archaeology</i> , Vol. 11, No. 1, pp. 25-35	Heather I. McKillop	Intermediate data quality
64	N/A	N/A	Belize; island; midden; Moho Cay	1979	Classic; Postclassic Period; Late Classic Tikal; Maya	400-700 AD	Manatee rib bone	Carved boat models	Actual boat forms; used for fishing and transportation; models from Moho Cay and one probably of manatee bone Altun Ha; form is identical to pictorial representations of similar boats from the Postclassic Period; and from Late Classic Tikal.	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. <i>World Archaeology</i> 16, 337– 53; in McKillop H.I (1984) Prehistoric Maya Reliance on Marine Resources: Analysis of a Midden from Moho Cay, Belize. <i>Journal of Field Archaeology</i> , Vol. 11, No. 1, pp. 25-35	Heather I. McKillop	Intermediate data quality
65	N/A	N/A	Belize; Altun Ha	N/A	Maya	N/A	Manatee bone	Carved boat models	no comment	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. <i>World Archaeology</i> 16, 337– 53.	N/A	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
66	N/A	N/A	Panama; El Hatillo; Gran Cocle	N/A	Coclé	1500 AD	Manatee bone	Carved manatee bones	no comment	Cooke, R. G. (2004). Rich, poor, shaman, child: Animals, rank, and status in the 'Gran Coclé' culture area of pre-Columbian Panama. Behaviour behind Bones. The Zooarchaeology of Ritual, Religion, Status and Identity, 271-284.	N/A	Intermediate data quality
67	N/A	N/A	Panama; El Cano	N/A	N/A	N/A	manatee bone	Carved manatee bones	Elite context	Roca, E. R., & Iglesias, L. P. (2015). Zooarchaeological Evidence on the Utilisation of Aquatic Mammals in Northern South America and the Caribbean: A Contribution to Long-Term Biological Conservation. Neotropical and Caribbean aquatic mammals, 73.	N/A	Intermediate data quality
68	N/A	N/A	Belize; island; midden; Moho Cay	1979	Middle Classic Maya	400-700 AD	Manatee bone	Figurine	Similar figurine excavated in coastal Belize; one from Altun Ha; of similar dimensions and proportions; similar figurine at Yale University Art Gallery.	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. World Archaeology 16, 337- 53; in Megan O'Neil, "Bone into Body, Manatee into Man," Yale University Art Gallery Bulletin (2002): 92-97, fig. 1-2.	Heather I. McKillop	Intermediate data quality
69	N/A	N/A	Belize; island; midden; Moho Cay	1979	Middle Classic Maya	400-700 AD	Manatee bone	Figurine	Similar figurine excavated in coastal Belize; one from Altun Ha; of similar dimensions and proportions; similar figurine at Yale University Art Gallery.	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. World Archaeology 16, 337- 53; in Megan O'Neil, "Bone into Body, Manatee into Man," Yale University Art Gallery Bulletin (2002): 92-97, fig. 1-2.	Heather I. McKillop	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
70	N/A	N/A	Belize; island; midden; Moho Cay	1979	Middle Classic Maya	400-700 AD	Manatee bone	Figurine	Similar figurine excavated in coastal Belize; one from Altun Ha; of similar dimensions and proportions; similar figurine at Yale University Art Gallery.	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. <i>World Archaeology</i> 16, 337– 53; in Megan O’Neil, “Bone into Body, Manatee into Man,” <i>Yale University Art Gallery Bulletin</i> (2002): 92–97, fig. 1–2.	Heather I. McKillop	Intermediate data quality
71	N/A	N/A	Mexico; Oxkintoc	N/A	Middle Classic Maya	550-650 AD	Manatee bone	Figurine	Oxkintoc was a middle sized Maya settlement; mainly occupied between the Early and Late Classic Period.	Muñoz, A. S., Götz, C. M., & Roca, E. R. (Eds.). (2014). <i>Neotropical and Caribbean Aquatic Mammals: Perspectives from Archaeology and Conservation Biology</i> . Nova Publishers.	Varela Torecilla	Intermediate data quality
72	N/A	N/A	Belize; island; midden; Moho Cay	1979	Middle Classic Maya	400-700 AD	Manatee rib bone	Musical rasp	no comment	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. <i>World Archaeology</i> 16, 337– 53.	Heather I. McKillop	Intermediate data quality
73	N/A	N/A	Mexico; Campeche; Isla Uaymil	N/A	Post Classic Period	850-1050 AD	Manatee bone	Musical rasp	Uaymil was operated as a transfer port in the pre-Columbian trade system that covered the peninsula’s coast.	Muñoz, A. S., Götz, C. M., & Roca, E. R. (Eds.). (2014). <i>Neotropical and Caribbean Aquatic Mammals: Perspectives from Archaeology and Conservation Biology</i> . Nova Publishers; in McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. <i>World Archaeology</i> 16, 337– 53.	N/A	Intermediate data quality
74	N/A	N/A	Belize; Colha	N/A	Maya	N/A	Manatee bone	Musical rasp	no comment	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. <i>World Archaeology</i> 16, 337– 53.	N/A	Intermediate data quality
75	N/A	N/A	Guatemala; Seibal	N/A	Maya	N/A	Manatee bone	Musical rasp	no comment	McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. <i>World Archaeology</i> 16, 337– 53.	N/A	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
76	N/A	N/A	Mexico; Xcambo	2009	Classic Maya	250-700 AD	Manatee bone	Spindle whorls (4)	no comment	Muñoz, A. S., Götz, C. M., & Roca, E. R. (Eds.). (2014). Neotropical and Caribbean Aquatic Mammals: Perspectives from Archaeology and Conservation Biology. Nova Publishers.	Canto Méndez	Intermediate data quality
77	Peabody museum	2004.24.31801.1	Panama; Coclé; Sitio Conte; trench 1; grave 1; skeleton 1	N/A	Coclé	200 BC - 1550 AD	Manatee bone	Carved manatee rib	no comment	<a href="#">Carved manatee rib – Results – Search Objects – eMuseum (harvard.edu)</a>	N/A	Intermediate data quality
78	Peabody museum	33-42-20/834	Panama; Coclé; Sitio Conte; trench 1; grave 1; skeleton 1	N/A	Coclé	200 BC - 1550 AD	Manatee bone	Effigy	no comment	<a href="#">Restored carved rib – Results – Search Objects – eMuseum (harvard.edu)</a>	N/A	Reliable data quality
79	Peabody museum	33-42-20/716	Panama; Coclé; Sitio Conte; trench 1; grave 1; skeleton 2	N/A	Coclé	200 BC - 1550 AD	Manatee bone	Effigy	no comment	<a href="#">Carved manatee rib – Results – Search Objects – eMuseum (harvard.edu)</a>	N/A	Reliable data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
80	Peabody museum	33-42-20/717	Panama; Coclé; Sitio Conte; trench 1; grave 1; skeleton 2	N/A	Coclé	200 BC - 1550 AD	Manatee bone	Effigy	no comment	<a href="#">Carved manatee rib – Results – Search Objects – eMuseum (harvard.edu)</a>	N/A	Reliable data quality
81	Peabody museum	33-42-20/563	Panama; Coclé; Sitio Conte; trench 1; grave 2	N/A	Coclé	200 BC - 1550 AD	Manatee bone	Effigy; anthropomorphic	no comment	<a href="#">Manatee rib, carved and broken – Results – Search Objects – eMuseum (harvard.edu)</a>	N/A	Reliable data quality
82	Peabody museum	33-42-20/2106B	Panama; Coclé; Sitio Conte; trench 2; grave 24	N/A	Coclé	200 BC - 1550 AD	Manatee bone	Effigy; zoomorphic	no comment	<a href="#">Carved manatee rib, head broken off, partially restored – Results – Search Objects – eMuseum (harvard.edu)</a>	N/A	Reliable data quality
83	Peabody museum	33-42-20/1604	Panama; Coclé; Sitio Conte; trench 2; grave 26; deposit 16	N/A	Coclé	200 BC - 1550 AD	Manatee bone	Effigy; zoomorphic	no comment	<a href="#">Carved manatee rib – Results – Search Objects – eMuseum (harvard.edu)</a>	N/A	Reliable data quality



Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
84	Peabody museum	33-42-20/2170	Panama; Coclé; Sitio Conte; trench 2; grave 24	N/A	Coclé	200 BC - 1550 AD	Manatee bone	Effigy; zoomorphic	no comment	<a href="#">Carved manatee rib – Results – Search Objects – eMuseum (harvard.edu)</a>	N/A	Reliable data quality
85	Peabody museum	33-42-20/858	Panama; Coclé; Sitio Conte; trench; grave 1; skeleton 1	N/A	Coclé	200 BC - 1550 AD	Possibly manatee bone	Effigy; zoomorphic	no comment	<a href="#">Carved rib – Results – Search Objects – eMuseum (harvard.edu)</a>	N/A	Reliable data quality
86	Peabody museum	2004.24.19676	Panama; Coclé; Sitio Conte; Talus trench 2; deposit 24	N/A	Coclé	200 BC - 1550 AD	Manatee bone	Effigy; zoomorphic	no comment	<a href="#">Crocodile carved on manatee rib – Results – Search Objects – eMuseum (harvard.edu)</a>	N/A	Reliable data quality
87	Peabody museum	39-59-20/7880	Honduras; Peroles Caliente	N/A	Paya	N/A	Ceramic	Effigy; zoomorphic	no comment	<a href="#">Pottery vessel lug representing a manatee – Results – Search Objects – eMuseum (harvard.edu)</a>	N/A	Intermediate data quality
88	Peabody museum	2004.24.15955B	Panama; Coclé, Sitio Conte; grave 1; no. 264	N/A	Coclé	200 BC - 1550 AD	Manatee bone	Pair of carved manatee ribs	no comment	<a href="#">Pair carved manatee ribs from Grave 1, number 264 – Results – Search Objects – eMuseum (harvard.edu)</a>	N/A	Reliable data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
89	Peabody museum	2004.24.15.955A	Panama; Coclé; Sitio Conte; grave 1; no. 264	N/A	Coclé	200 BC - 1550 AD	Manatee bone	Pair of carved manatee ribs	no comment	<a href="#">Pair carved manatee ribs from Grave 1, number 264 – Results – Search Objects – eMuseum (harvard.edu)</a>	N/A	Reliable data quality
90	Peabody museum	48-29-20/17.910	Panama; Chiriqui	N/A	N/A	N/A	Gold	Pendant; zoomorphic	Motif can be discussed	<a href="#">Gold manatee - pendant – Results – Search Objects – eMuseum (harvard.edu)</a>	N/A	Intermediate data quality
91	Peabody museum	2004.24.16.117	Panama; Coclé; Sitio Conte	N/A	Coclé	200 BC - 1550 AD	Manatee bone	Pendants; zoomorphic	no comment	<a href="#">3 carved manatee rib pendants in the form of crocodile god – Results – Search Objects – eMuseum (harvard.edu)</a>	N/A	Intermediate data quality
92	Peabody museum	33-42-20/17.25	Panama; Coclé; Sitio Conte; trench 2; grave 26; deposit 10	N/A	Coclé	200 BC - 1550 AD	Manatee bone	Small manatee ribs with gold butts (2).	no comment	<a href="#">2 small manatee ribs with gold butts, broken – Results – Search Objects – eMuseum (harvard.edu)</a>	N/A	Reliable data quality
93	Royal Ontario Museum	N/A	Belize; Tomb A-1/2; Altun Ha	1964-1970	Early Classic Maya	500 AD	Manatee bone	Figurine	Similar figurine excavated in coastal Belize; one from Moho Cay; of similar dimensions and proportions; similar figurine at Yale University Art Gallery; possible elite burial.	Megan O'Neil, "Bone into Body, Manatee into Man," Yale University Art Gallery Bulletin (2002): 92-97, fig. 1-2; in McKillop, H. I. (1985). Prehistoric exploitation of the manatee in the Maya and Circum-Caribbean areas. World Archaeology 16, 337- 53.	David M. Pendergast	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
94	Smithsonian Miscellaneous Collections	N/A	Honduras; Dos Quebradas; Olancho and Guyape Rivers	1933	Possible Maya	N/A	Ceramic	Bowl	no comment	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. Smithsonian Miscellaneous Collections.	Smithsonian Institution expedition 1933	Intermediate data quality
95	Smithsonian Miscellaneous Collections	N/A	Honduras; San Marcos; Olancho and Guyape Rivers	1933	N/A	N/A	Ceramic	Lug	no comment	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. Smithsonian Miscellaneous Collections.	Smithsonian Institution expedition 1933	Intermediate data quality
96	Smithsonian Miscellaneous Collections	N/A	Honduras; Bay Island	1933	N/A	N/A	Ceramic	Ocarina	no comment	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. Smithsonian Miscellaneous Collections.	Junius Bird; Mr. Mitchell-Hedges	Intermediate data quality
97	Smithsonian Miscellaneous Collections	N/A	Honduras; Bay Island	1933	N/A	N/A	Ceramic	Ocarina	no comment	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. Smithsonian Miscellaneous Collections.	Junius Bird; Mr. Mitchell-Hedges	Intermediate data quality
98	Smithsonian Miscellaneous Collections	N/A	Honduras; Bay Islands; Utila Island; side 2; Black Rock Basin	1931	N/A	N/A	Ceramic	Pottery foot	no comment	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. <i>Smithsonian Miscellaneous Collections</i> .	Junius Bird	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
99	Smithsonian Miscellaneous Collections	N/A	Honduras; Bay Islands; Utila Island; side 2; Black Rock Basin	1931	N/A	N/A	Ceramic	Pottery shard	no comment	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. <i>Smithsonian Miscellaneous Collections</i> .	Junius Bird	Intermediate data quality
100	Smithsonian Miscellaneous Collections	N/A	Honduras; Bay Islands; Utila Island; side 2; Black Rock Basin	1931	N/A	N/A	Ceramic	Pottery shard	no comment	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. <i>Smithsonian Miscellaneous Collections</i> .	Junius Bird	Intermediate data quality
101	Smithsonian Miscellaneous Collections	N/A	Honduras; Bay Islands; Helena Island; Cave 1	1930	N/A	N/A	Ceramic	Pottery sherd	no comment	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. <i>Smithsonian Miscellaneous Collections</i> .	Mr. Mitchell-Hedges	Intermediate data quality
102	Smithsonian Miscellaneous Collections	N/A	Honduras; Bay Islands; Helena Island; Cave 1	1930	N/A	N/A	Ceramic	Pottery sherd	no comment	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. <i>Smithsonian Miscellaneous Collections</i> .	Mr. Mitchell-Hedges	Intermediate data quality
103	Smithsonian Miscellaneous Collections	N/A	Honduras; Bay Islands; Helena Island; Cave 1	1930	N/A	N/A	Ceramic	Pottery sherd	no comment	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. <i>Smithsonian Miscellaneous Collections</i> .	Mr. Mitchell-Hedges	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
104	Smithsonian Miscellaneous Collections	N/A	Honduras; Bay Islands; Morat Island	1933	N/A	N/A	Ceramic	Pottery sherd	no comment	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. Smithsonian Miscellaneous Collections.	Junius Bird ; Mr. Mitchell-Hedges	Intermediate data quality
105	Smithsonian Miscellaneous Collections	N/A	Honduras; Bay Islands; Bonacca Island	1933	N/A	N/A	Ceramic	Pottery sherd	no comment	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. Smithsonian Miscellaneous Collections.	Junius Bird ; Mr. Mitchell-Hedges	Intermediate data quality
106	Smithsonian Miscellaneous Collections	N/A	Honduras; Bay Islands; Marble Hill	1931	N/A	N/A	Ceramic	Pottery sherd	no comment	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. Smithsonian Miscellaneous Collections.	Junius Bird ; Mr. Mitchell-Hedges	Intermediate data quality
107	Smithsonian Miscellaneous Collections	N/A	Honduras; Bay Islands; Marble Hill	1931	N/A	N/A	Ceramic	Pottery sherd	no comment	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. Smithsonian Miscellaneous Collections.	Junius Bird ; Mr. Mitchell-Hedges	Intermediate data quality
108	Smithsonian Miscellaneous Collections	N/A	Honduras; Bay Islands; Dixon site	1933	N/A	N/A	Ceramic	Pottery sherds	no comment	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. Smithsonian Miscellaneous Collections.	Junius Bird ; Mr. Mitchell-Hedges	Intermediate data quality
109	Smithsonian Miscellaneous Collections	N/A	Honduras; Bay Islands; Dixon site	1933	N/A	N/A	Ceramic	Pottery vessel	no comment	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. <i>Smithsonian Miscellaneous Collections</i> .	Junius Bird ; Mr. Mitchell-Hedges	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
110	Smithsonian Miscellaneous Collections	N/A	Honduras; Bay Island	1930	N/A	N/A	Ceramic	Vase	no comment	Strong, W. D. (1935). Archaeological investigations in the Bay Islands. Spanish Honduras. Smithsonian Miscellaneous Collections.	Mr. Mitchell-Hedges	Intermediate data quality
111	St. Vincent and the Grenadines National Trust Museum	N/A	St. Vincent	N/A	Saladoid	250 BC - 650 AD	Ceramic	Adorno	While manatees appear on the pottery of both early ceramic cultures of the Antilles; they do not appear in the ceramics of the Lower Orinoco.	Waldron, L. (2011). Geographic distributions of zoomorphic motifs in saladoid ceramics. Caribbean Connections, 1(2).	Lawrence Waldron	Reliable data quality
112	St. Vincent and the Grenadines National Trust Museum	N/A	St. Vincent	N/A	Saladoid	250 BC - 650 AD	Ceramic	Adorno	While manatees appear on the pottery of both early ceramic cultures of the Antilles; they do not appear in the ceramics of the Lower Orinoco.	Waldron, L. (2011). Geographic distributions of zoomorphic motifs in saladoid ceramics. Caribbean Connections, 1(2).	Lawrence Waldron	Reliable data quality
113	St. Vincent and the Grenadines National Trust Museum	N/A	St. Vincent	N/A	Saladoid	250 BC - 650 AD	Ceramic	Adorno	While manatees appear on the pottery of both early ceramic cultures of the Antilles; they do not appear in the ceramics of the Lower Orinoco.	Waldron, L. (2011). Geographic distributions of zoomorphic motifs in saladoid ceramics. Caribbean Connections, 1(2).	Lawrence Waldron	Reliable data quality
114	The British Museum	Am1938,0609.123	Honduras; Bay Island	1938	Selin	300-1000 AD	Pottery	Adorno	Lord Moyne's Bay Islands collection was never fully registered but all objects had been marked 1938,0609. Assigning individual	<a href="#">vessel; adorno   British Museum</a>	Baron Moyne	Reliable data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
									numbers began in July 2014.			
115	The British Museum	Am1974,02.844;	Jamaica; Middlesex County; Clarendon; Vere	1974	Taino	700-1000 AD	Mammal bone	Artifact	no comment	<a href="#">artefact   British Museum</a>	Daniel Bruce	Intermediate data quality
116	The British Museum	Am1974,02.20;	Jamaica; Middlesex County; St Catherine; White Marl	1974	Taino	N/A	Dugong bone	Artifact	no comment	<a href="#">artefact   British Museum</a>	Daniel Bruce	Intermediate data quality
117	The British Museum	Am1974,02.3336	Jamaica; Middlesex County; St. Mary; Rio Nuevo	1974	Taino	N/A	Manatee rib bone	Hammer (?)	no comment	<a href="#">hammer (?)   British Museum</a>	Daniel Bruce	Imprecise data quality
118	The British Museum	Am1938,0609.150	Honduras; Bay Island	1938	Pre-Columbian	N/A	Pottery	Jar	Lord Moyne's Bay Islands collection was never fully registered but all objects had been marked 1938,0609. Assigning individual numbers began in July 2014.	<a href="#">vessel; jar   British Museum</a>	Baron Moyne	Reliable data quality
119	The British Museum	Am1938,0609.149	Honduras; Bay Island	1938	Early Selin	300-600 AD	Pottery	Jar	Lord Moyne's Bay Islands collection was never fully registered but all	Healy et al 2010 / A Musical Nature: Pre-Columbian Ceramic Flutes of Northeast Honduras; Dennett 2007 / The Río Claro Site	Baron Moyne	Reliable data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
									objects had been marked 1938,0609. Assigning individual numbers began in July 2014.	(AD 1000-1530), Northeast Honduras: A Ceramic Classification and Examination of External Connections; Healy 1978 / Excavations at Rio Claro, Northeast Honduras: Preliminary Report		
120	The British Museum	Am1938,0609.133	Honduras; Bay Island	1938	Early Selin	300-600 AD	Pottery	Jar	Lord Moyne's Bay Islands collection was never fully registered but all objects had been marked 1938,0609. Assigning individual numbers began in July 2014.	Healy et al 2010 / A Musical Nature: Pre-Columbian Ceramic Flutes of Northeast Honduras; Dennett 2007 / The Río Claro Site (AD 1000-1530), Northeast Honduras: A Ceramic Classification and Examination of External Connections; Healy 1978 / Excavations at Rio Claro, Northeast Honduras: Preliminary Report	Baron Moyne	Reliable data quality
121	The British Museum	Am1938,0609.99	Honduras; Bay Island	1938	Taíno	800-1530 AD	Pottery	Ocarina	Lord Moyne's Bay Islands collection was never fully registered but all objects had been marked 1938,0609. Assigning individual numbers began in July 2014.	<a href="#">ocarina   British Museum</a>	Baron Moyne	Reliable data quality
122	The British Museum	Am1938,0609.96	Honduras; Bay Island	1938	Taíno	800-1530 AD	Pottery	Ocarina	Lord Moyne's Bay Islands collection was never fully registered but all objects had been marked 1938,0609. Assigning individual numbers began in July 2014.	<a href="#">ocarina   British Museum</a>	Baron Moyne	Reliable data quality



Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
123	The Metropolitan Museum of Art	1997.35.4	Hispaniola; Dominican Republic	1997	Taíno	1200-1400 AD	Bone	Spoon; zoomorphic	no comment	<a href="#">Lizard-Head Spoon   Taíno   The Metropolitan Museum of Art (metmuseum.org)</a>	Vincent P. Fay	Intermediate data quality
124	The Metropolitan Museum of Art	1982.48.4	Hispaniola; Dominican Republic	1982	Taíno	1200-1400 AD	Bone	Vomiting spatula; zoomorphic	Item used in cohoba ritual during purging	<a href="#">Spatula (Vomitivo), Lizard   Taíno   The Metropolitan Museum of Art (metmuseum.org)</a>	Vincent P. Fay	Intermediate data quality
125	The Smithsonian - National Museum of the American Indian	7/2105	US Virgin Islands; Saint Croix; Kitchen midden; Salt River	late 1916 or early 1917	multiple; including Saloid, Elenoid and Chicoid	500-1500 AD	Manatee bone	animal bone	no comment	<a href="#">Animal bone   National Museum of the American Indian (si.edu)</a>	Theodore de Booy	Intermediate data quality
126	The Smithsonian - National Museum of the American Indian	4/5780	Cuba; Guantánamo Province; Maisí Municipality; Jauco; Cave at Jauco	1915	multiple; Ortoiroid and Ostionoid	4000 BC - 1500 AD	Manatee bone	Awl or perforator	no comment	<a href="#">Awl/perforator   National Museum of the American Indian (si.edu)</a>	Mark Raymond Harrington	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
127	The Smithsonian - National Museum of the American Indian	3753	Puerto Rico; Santa Isabel Municipality; Santa Isabel de Coamo	1905	multiple; including Ortoiroid, Saloid and Ostionoid	2500 BC - 1500 AD	Manatee bone	Awl or perforator	no comment	<a href="#">Awl/perforator   National Museum of the American Indian (si.edu)</a>	Frank D. Utley	Intermediate data quality
128	The Smithsonian - National Museum of the American Indian	3/9451	Cuba; Guantánamo Province; Maisí Municipality; Laguna de Limones; Laguna Limones village site	1915	Chicoid	1200-1500 AD	Manatee bone	Awl or perforator	no comment	<a href="#">Awl/perforator   National Museum of the American Indian (si.edu)</a>	Mark Raymond Harrington	Intermediate data quality
129	The Smithsonian - National Museum of the American Indian	1/9716	Hispaniola; Dominican Republic; South coast	1908	Ostionoid	600-1500 AD	Manatee bone	Figure; part/fragment	no comment	<a href="#">Figure part/fragment   National Museum of the American Indian (si.edu)</a>	Adolfo de Hostos	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
130	The Smithsonian - National Museum of the American Indian	18/7106	US Virgin Islands; Saint Croix; Concordia; South of Frederiksted	1934	multiple; including Salaoïd, Elenoid and Chicoid	500 BC - 1500 AD	Manatee bone	Figurine	no comment	<a href="#">Figure   National Museum of the American Indian (si.edu)</a>	Lewis J. Korn	Intermediate data quality
131	The Smithsonian - National Museum of the American Indian	4/4780	Cuba; Guantánamo Province; Maisí Municipality; El Lindero; Río Maya area; El Lindero village site	1915	Chicoid	1200-1500 AD	Manatee bone	Fragment; Spoon/ladle	no comment	<a href="#">Spoon/Ladle part/fragment   National Museum of the American Indian (si.edu)</a>	Mark Raymond Harrington	Intermediate data quality
132	The Smithsonian - National Museum of the American Indian	18/7126	US Virgin Islands; Saint Croix; Concordia; South of Frederiksted	1934	multiple; including Salaoïd, Elenoid and Chicoid	500 BC - 1500 AD	Animal bone	Fragment; Vomiting spatula; no motif	Item used in cohoba ritual during purging	<a href="#">Swallowing stick part/fragment   National Museum of the American Indian (si.edu)</a>	Lewis J. Korn	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
133	The Smithsonian - National Museum of the American Indian	4/6090	Cuba; Guantánamo Province; Maisí Municipality; San Lucas; Big Wall site	1915	Chicoid	1200-1500 AD	Manatee rib bone	Fragment; Vomiting spatula; no motif	Item used in cohoba ritual during purging	<a href="#">Swallowing stick part/fragment   National Museum of the American Indian (si.edu)</a>	Mark Raymond Harrington	Intermediate data quality
134	The Smithsonian - National Museum of the American Indian	4/4982	Cuba; Guantánamo Province; Maisí Municipality; Monte Cristo; Village site	1915	Chicoid	1200-1500 AD	Manatee bone	Fragment; Vomiting spatula; no motif	Item used in cohoba ritual during purging	<a href="#">Swallowing stick part/fragment   National Museum of the American Indian (si.edu)</a>	Mark Raymond Harrington	Intermediate data quality
135	The Smithsonian - National Museum of the American Indian	20/122	Honduras; Gracias a Dios Department; Puerto Lempira Municipality; Laguna de Caratascá	1938	Mosquito	N/A	Manatee bone	game call	Probably used during hunting; fishing or warfare	<a href="#">Game call   National Museum of the American Indian (si.edu)</a>	Victor Wolfgang von Hagen	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
136	The Smithsonian - National Museum of the American Indian	4/6102	Cuba; Guantánamo Province ; Maisí Municipality; San Lucas; Big Wall site	1915	Chicoid	1200-1500 AD	Animal bone	Handle; Vomiting spatula; Anthropomorphic	Item used in cohoba ritual during purging	<a href="#">Swallowing stick part/fragment   National Museum of the American Indian (si.edu)</a>	Mark Raymond Harrington	Intermediate data quality
137	The Smithsonian - National Museum of the American Indian	24/4942	Hispaniola; Dominican Republic ; Santiago Province ; Santiago de los Caballeros; Vicinity of Santiago de los Caballeros	1974	Chicoid	800-1500 AD	Animal bone	Handle; Vomiting spatula; anthropomorphic	Item used in cohoba ritual during purging	<a href="#">Swallowing stick part/fragment   National Museum of the American Indian (si.edu)</a>	Howard M. Rosengarten and Enrique Onesimo Guerrero	Intermediate data quality
138	The Smithsonian - National Museum of the American Indian	24/6483	Hispaniola; Dominican Republic	1972	Chicoid	1000-1500 AD	Manatee bone	Pendant; Anthropomorphic	no comment	<a href="#">Pendant   National Museum of the American Indian (si.edu)</a>	Mr. and Mrs. Del Pino	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
139	The Smithsonian - National Museum of the American Indian	1/9715	Hispaniola; Dominican Republic; South coast	1908	Chicoid	800-1500 AD	Manatee bone	Spoon	no comment	<a href="#">Spoon   National Museum of the American Indian (si.edu)</a>	Adolfo de Hostos	Intermediate data quality
140	The Smithsonian - National Museum of the American Indian	6/1374	US Virgin Islands; Saint Thomas; Magens Bay north coast	late 1916 or early 1917	Chicoid or Elenoid	600-1200 AD	Manatee bone; mother-of-pearl; shell	Vomiting spatula; Anthropomorphic	Item used in cohoba ritual during purging	<a href="#">Swallowing stick   National Museum of the American Indian (si.edu)</a>	Theodor de Booy	Intermediate data quality
141	The Smithsonian - National Museum of the American Indian	3/9448	Cuba; Guantánamo Province; Maisí Municipality; El Lindero; Río Maya area; El Lindero village site	1915	Chicoid	1200-1500 AD	Manatee bone	Vomiting spatula; no motif	Item used in cohoba ritual during purging	<a href="#">Swallowing stick part/fragment   National Museum of the American Indian (si.edu)</a>	Mark Raymond Harrington	Intermediate data quality
142	The Smithsonian - National Museum of the	19/7371	Hispaniola; Dominican Republic	1938	Chicoid	800-1500 AD	Animal bone	Vomiting spatula; no motif	Item used in cohoba ritual during purging	<a href="#">Swallowing stick   National Museum of the American Indian (si.edu)</a>	William Huntting Howell	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
	American Indian											
143	The Smithsonian - National Museum of the American Indian	19/7370	Hispaniola; Dominican Republic	1938	Chicoid	800-1500 AD	Animal bone	Vomiting spatula; no motif	Item used in cohoba ritual during purging	<a href="#">Swallowing stick   National Museum of the American Indian (si.edu)</a>	William Huntting Howell	Intermediate data quality
144	The Smithsonian - National Museum of the American Indian	4/4885	Cuba; Guantánamo Province; Maisí Municipality; Patana; La Patana village site	1915	Chicoid	1200-1500 AD	Animal bone; manatee bone	worked animal bone	no comment	<a href="#">Worked animal bone   National Museum of the American Indian (si.edu)</a>	Cecilio Mosquera and brother	Intermediate data quality
145	Yale Collections LUX	YPM ANT 034551	Puerto Rico; Canas site. Excavation 1; Square E-2; Level 1.00m	1934	Ceramic age	N/A	Manatee bone	Awl	no comment	<a href="#">Worked manatee bone awl. [Puerto Rico] - LUX (yale.edu)</a>	N/A	Intermediate data quality
146	Yale Collections LUX	YPM ANT 237725	Lesser Antilles	1982	Ceramic age	N/A	Ceramic	Figurine	no comment	<a href="#">Zoomorphic ceramic figurine, possibly of a manatee, with traces of red pigment, length= 8.5 cm (Fred... - LUX (yale.edu))</a>	Fred Olsen and Stevens	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
147	Yale Collections LUX	YPM ANT 237493	Haiti	1982	Ceramic age	N/A	Stone	Figurine	no comment	<a href="#">Gray-brown stone manatee, 6 x 3 inches (Paul Barker number 14), Haiti?. [Haiti] - LUX (yale.edu)</a>	Paul Barker	Intermediate data quality
148	Yale Collections LUX	YPM ANT 046560	Haiti; Diale 1 site; Midden 5B; Section C-3; Level 2	1935	Meillac Period	N/A	Manatee bone	Pick	no comment	<a href="#">Manatee bone pick. [Haiti] - LUX (yale.edu)</a>	N/A	Intermediate data quality
149	Yale Collections LUX	YPM ANT 046942	Haiti; Diale 1 site; Midden 5B; Section C-6; Level 3	1935	Meillac Period	N/A	Manatee bone	Pick	no comment	<a href="#">Manatee bone pick. [Haiti] - LUX (yale.edu)</a>	N/A	Intermediate data quality
150	Yale Collections LUX	YPM ANT 045660	Haiti; Diale 1 site; Midden 5A; Section B-2; Level 2	1935	Meillac Period	N/A	Manatee bone	Pick	no comment	<a href="#">Manatee bone pick. [Haiti] - LUX (yale.edu)</a>	N/A	Intermediate data quality
151	Yale Collections LUX	YPM ANT 034547	Puerto Rico	1934	Ceramic age	N/A	Manatee bone	Pick	no comment	<a href="#">Manatee rib pick. [Puerto Rico] - LUX (yale.edu)</a>	N/A	Intermediate data quality
152	Yale Collections LUX	YPM ANT 034548	Puerto Rico; Canas site. Excavation 1;	1934	Ceramic age	N/A	Manatee bone	Pick	no comment	<a href="#">Manatee rib pick. [Puerto Rico] - LUX (yale.edu)</a>	N/A	Intermediate data quality



Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
			Square D-2; Level 1.00m									
153	Yale Collections LUX	YPM ANT 04583 2	Haiti; Diale 1 site; Midden 5A; Section C-2; Level 2	1935	Meillac Period	N/A	Manatee bone	Pick	no comment	<a href="#">Two manatee bone picks. [Haiti] - LUX (yale.edu)</a>	N/A	Intermediate data quality
154	Yale Collections LUX	YPM ANT 04668 3	Haiti; Diale 1 site; Midden 5B; Section C-5; Level 2	1935	Meillac Period	N/A	Manatee bone	Pick	no comment	<a href="#">Manatee bone pick. [Haiti] - LUX (yale.edu)</a>	N/A	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
155	Yale University Art Gallery	2002.15.8	Mexico or Belize	1950; 2002	Early Classic Maya	200-500 AD	Manatee bone with pigment	Figurine	Similar figurines excavated in coastal Belize; one from Altun Ha; one from Moho Cay; of similar dimensions and proportions; elite burial; some aspects looks to be intentionally invoking ancient Olmec style.	Megan O'Neil, "Bone into Body, Manatee into Man," Yale University Art Gallery Bulletin (2002): 92-97; in Mary E. Miller et al., Fiery Pool: The Maya and the Mythic Sea, eds. Daniel Finamore and Stephen D. Houston; Yale University Art Gallery, <a href="https://artgallery.yale.edu/collections/objects/64346">https://artgallery.yale.edu/collections/objects/64346</a> ; Acquisitions 2002," Yale University Art Gallery Bulletin (2003): 131; David M. Pendergast, Excavations at Altun Ha, Belize, 1964-70 (Toronto: Royal Ontario Museum, 1982), vol. 1; Paul Healy, "Archaeological Research in Belize," Mexicon 2, no. 1 (1980).	Thomas T. Solley	Intermediate data quality
156	Yale University Art Gallery	2014.121.95	Caribbean	1945; 1949/2014	Taino	1200-1500 AD	Bone; probably manatee	Figurine	Amulets used cohoba rituals for advice and healing	tainomuseum.org; <a href="http://tainomuseum.org/portfolio-view/bone-spoons/">http://tainomuseum.org/portfolio-view/bone-spoons/</a> ; Brooklyn Museum; <a href="http://www.brooklynmuseum.org/opencollections/object_printable/158215/Ritual_Spaula_1997.175.1">http://www.brooklynmuseum.org/opencollections/object_printable/158215/Ritual_Spaula_1997.175.1</a> (comp.cit). The Metropolitan Museum of Art: The Collection Online, <a href="http://www.metmuseum.org/collection/the-collection-online/search/314314">http://www.metmuseum.org/collection/the-collection-online/search/314314</a> ; Acquisitions 2015, <a href="http://artgallery.yale.edu/sites/default/files/files/Pub_Bull_acquisitions_2015_updated%2012_16_15.pdf">http://artgallery.yale.edu/sites/default/files/files/Pub_Bull_acquisitions_2015_updated%2012_16_15.pdf</a> .	Erika Hughes	Intermediate data quality

Data set_ID	Museum	Cataloge_nr	Original_Location	Year_reported	Historical_period	Date_BC_AD	Material	Description	Comments	References	Analyst	Data_quality
157	Yale University Art Gallery	2014.121.94	Caribbean	1945; 1949/2014	Taíno	1200-1500 AD	Bone; probably manatee	Handle; Vomiting spatula; Anthropomorphic	Item used in cohoba ritual during purging	tainomuseum.org; <a href="http://tainomuseum.org/portfolio-view/bone-spoons/">http://tainomuseum.org/portfolio-view/bone-spoons/</a> ; Brooklyn Museum: Arts of the Americas: Ritual Spatula or Swallow Stick; <a href="https://www.brooklynmuseum.org/opencollection/objects/158215/Ritual_Spatula_or_Swallow_Stick">https://www.brooklynmuseum.org/opencollection/objects/158215/Ritual_Spatula_or_Swallow_Stick</a> ; Acquisitions 2015; <a href="http://artgallery.yale.edu/sites/default/files/files/Pub_Bull_acquisitions_2015_updated%2012_16_15.pdf">http://artgallery.yale.edu/sites/default/files/files/Pub_Bull_acquisitions_2015_updated%2012_16_15.pdf</a> .	Erika Hughes	Intermediate data quality

### 3.2 Archaeological Objects – Measurements

Data set_ID	Museum	Cataloge_nr	length_c m	width_c m	thickness_c m	depth_c m	height_c m	diameter_c m	mass_g
1	Artemis Gallery	N/A	16.5	17.5	3.8				
2	Artemis Gallery	N/A	23						
3	Artemis Gallery	N/A	12.7	3.6					
4	Brooklyn Museum	1997.175.2	21	3.8	4.4				
5	Brooklyn Museum	1997.175.1	16.5	6.4	3.2				
6	Carribbean Ties Exhibit - NEXUS1492	N/A	0.93						
11	Direction Régional des Affaires Culturelles	N/A	6.3	2.5					
12	Direction Régional des Affaires Culturelles	N/A	3.8	6.3					
16	Musée du quai Branly	71.1939.41.190	6.7	2.4	2.1				15
61	N/A	N/A	15	4	3				
62	N/A	N/A	13	5					
63	N/A	N/A	5.5	2					
68	N/A	N/A	11	4					

Data set_ID	Museum	Cataloge_nr	lenght_c m	width_c m	thickness_c m	depth_c m	height_c m	diameter_c m	mass_ g
69	N/A	N/A	15	5					
70	N/A	N/A	15	4					
72	N/A	N/A	30	4					
78	Peabody museum	33-42-20/834	14	3.5	2.1				
79	Peabody museum	33-42-20/716	16.2	5.5	2.2				
80	Peabody museum	33-42-20/717	8.5	3.1	3.2				
81	Peabody museum	33-42-20/563	7	2.7	2.3				
82	Peabody museum	33-42-20/2106B	14.2	4.7	2.9				
83	Peabody museum	33-42-20/1604	10	3.6	3.4				
84	Peabody museum	33-42-20/2170	10.5	2.7	2.5				
85	Peabody museum	33-42-20/858	15	4.2	2.4				
86	Peabody museum	2004.24.19676	10.16	12.7					
87	Peabody museum	39-59-20/7880	10.8	6	4.7				
88	Peabody museum	2004.24.15955B	12.7						
89	Peabody museum	2004.24.15955A	17.78						
90	Peabody museum	48-29-20/17910	5.5	1.5	1.3				
92	Peabody museum	33-42-20/1725	9	2.8	2.9				

Data set_ID	Museum	Cataloge_nr	lenght_c m	width_c m	thickness_c m	depth_c m	height_c m	diameter_c m	mass_ g
93	Royal Ontario Museum	N/A	11.1						
109	Smithsonian Miscellaneous Collections	N/A			0.3				
111	St. Vincent and the Grenadines National Trust Museum	N/A	2.5						
112	St. Vincent and the Grenadines National Trust Museum	N/A	4.5	3.8					
113	St. Vincent and the Grenadines National Trust Museum	N/A	2.5	4.5					
114	The British Museum	Am1938,0609.123	7.90	5.20			4.60		
116	The British Museum	Am1974,02.20; WM - 3061	6.20	2.70	2.40				
118	The British Museum	Am1938,0609.150		14.40			9.50		
119	The British Museum	Am1938,0609.149		15.80			9.60		
120	The British Museum	Am1938,0609.133					16.60	16.50	
121	The British Museum	Am1938,0609.99	6.80	4.40		3.50			
122	The British Museum	Am1938,0609.96	7.20	6.80		4.70			

Data set_ID	Museum	Cataloge_nr	lenght_c m	width_c m	thickness_c m	depth_c m	height_c m	diameter_c m	mass_ g
123	The Metropolitan Museum of Art	1997.35.4	9.8	4	3.5				
124	The Metropolitan Museum of Art	1982.48.4	15.6	2.5	2.5				
125	The Smithsonian - National Museum of the American Indian	7/2105	12	2					
126	The Smithsonian - National Museum of the American Indian	4/5780	12	2					
127	The Smithsonian - National Museum of the American Indian	3753	14	2					
128	The Smithsonian - National Museum of the American Indian	3/9451	17	2					
129	The Smithsonian - National Museum of the American Indian	1/9716	4.5	2.5					
130	The Smithsonian - National Museum of the American Indian	18/7106	8	6					
131	The Smithsonian - National Museum of the American Indian	4/4780	4	3					

Data set_ID	Museum	Cataloge_nr	lenght_c m	width_c m	thickness_c m	depth_c m	height_c m	diameter_c m	mass_ g
132	The Smithsonian - National Museum of the American Indian	18/7126	6	2					
133	The Smithsonian - National Museum of the American Indian	4/6090	8	2					
134	The Smithsonian - National Museum of the American Indian	4/4982	4.5	2					
135	The Smithsonian - National Museum of the American Indian	20/122	8	2					
136	The Smithsonian - National Museum of the American Indian	4/6102	10	2					
137	The Smithsonian - National Museum of the American Indian	24/4942	7	2					
138	The Smithsonian - National Museum of the American Indian	24/6483	8						
139	The Smithsonian - National Museum of the American Indian	1/9715	6	3					



Data set_ID	Museum	Cataloge_nr	lenght_c m	width_c m	thickness_c m	depth_c m	height_c m	diameter_c m	mass_ g
140	The Smithsonian - National Museum of the American Indian	6/1374	15	2.5	1.5				
141	The Smithsonian - National Museum of the American Indian	3/9448	10	2					
142	The Smithsonian - National Museum of the American Indian	19/7371	30						
143	The Smithsonian - National Museum of the American Indian	19/7370	30						
144	The Smithsonian - National Museum of the American Indian	4/4885	5	2					
146	Yale Collections LUX	YPM ANT 237725	8.5						
147	Yale Collections LUX	YPM ANT 237493	15.2	7.6					
155	Yale University Art Gallery	2002.15.8	12.4	5.7	2.8				
156	Yale University Art Gallery	2014.121.95	11	3.56	1.55				
157	Yale University Art Gallery	2014.121.94	19.05	3.28	0.79				

### 3.3 Archaeological Objects – Detailed Description

The descriptions have mostly been sourced from museum descriptions, personal observations, or articles, either paraphrased or translated directly from the original language.

Dataset_ID	Context; Provenance	Description
1	private New York; New York; USA collection; ex-private New York; USA collector	Vomiting spatula with zoomorphic motif; whole lizard; or crocodile body; tail is the swallowing-part and head is the handle; front and back legs carved out close to the body; bent in an angle; incised lines along the side and top of the body; nostrils and round eyes; mouth at the side of the handle.
2	Robert & Carolyn Nelson Collection; David Bernstein Fine Art; New York; NY	A manatee rib finely carved in high relief at one end with a crouching skeletal amphibian; frog; or deity prominently displaying its backbone; Below the figure are bands of geometric motifs; In good condition; tip of rib restored; some erosion.
3	N/A	Anthropomorphic motif; smiling or growling; stylized body; huge empty eye sockets; protruding nose; spiked crown; armes folded up towards under the chin: legs dispropotionally small; crouching; bellybutton.
4	Anonymous gift	Cohoba spoon with antropomorphic motif; head to stomach; long; oval head and eyes; smiling or growling; hands placed over the somach/chest area; the spoon looks to represent the rest of the body
5	Anonymous gift	Vomiting spatula with clear antropozoomorphic motif; figure is sitting with hands placed directly above/on the knees; eyes on the side of the head; round head with rectangular mouthpiece; insect-like; decorated headpiece with carvings and drilled holes
6	The inhaler was found with one of the burials (F068).	Cohoba inhalor carved into a fish with an open mouth; zoomorphic; eyes probably contained inlays; opening in the mouth connected with two perforations in the gills; Y-shaped perforation; parallell incisions cut crosswise along the ridge of the fish back; painted on some parts

Dataset_ID	Context; Provenance	Description
7	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Fragment of vomiting spatula; anthropomorphic character with arms extended along the body; highly decorated head and body; In the convex part the piece presents a beautifully designed (broken) human head; face shows the eyes; large ears and teeth; forehead exhibits three incised lines; from top to bottom those on the sides come diagonally inwards to join the central one; but they do not touch; here the piece is broken; On the three lines; nine aligned points resemble a kind of headdress; The design goes from the fracture to the apex; five concentric circles and three horizontal parallel lines; the edges can be seen in a somewhat higher plane from intentional wear in the center of the body of the piece; this edge widens forming a small circle right at the apex; broken forehead and nose; two concave eyes can be seen on the sides of the damage; surrounded by an incised line and towards the ends of the eyes the ears are shown; large; protruding from the design of the face; the right is fractured; but the left has an intentional reduction in the upper area in the form of a semicircle and shows a perforation in its lower part; to insert earrings; Beneath the broken face; the lower part of the face projects almost conically; teeth incised as a smile; showing the two rows; the lines are more pronounced on the outer edges of the teeth and on the horizontal and vertical center lines; dividing the design into four parts; Another perforation can be seen on the neck of the figure; Lateral edges of the body of the spatula have an incised rim as arms; below is a neck piercing circled with a raised circle; ear piercing is also circled with a raised circle; On the chest there is another design of concentric circles.
8	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Zoomorphic; two large concave eyes; separated by a nose-shaped partition; the mouth is displayed open and smiling; showing lips; in the center of the mouth; at the same height as the lips; is an unidentifiable structure; perhaps resembles the prolongation of the nose of bats (nasal leaflets); that is decorated with incised lines; It presents a structure in the upper part of the head that could be a pair of ears; standing out in two similar protuberances; each one in turn has two other protuberances; Two incised lines descend diagonally from this structure towards the forehead; forming a triangle until they join in the center of the nasal septum; from there they descend; between the eyes; as a single line; In the posterior region of the head there are two horizontally interconnected holes inside the body of the piece that were used to allow a string to pass through.

Dataset_ID	Context; Provenance	Description
9	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Anthropomorphic figurative image; a being with a large head and bent limbs; face slightly ovoid with rounded and concave eyes; mouth is a wide and long curved incision that suggests a cheerful appearance; nose is not defined; on the head is a protuberance that projects towards both ears; the bulge is decorated with curved shapes with linear incisions; disproportionately large ears are ovoid in shape with a circular element pierced at one end and a transverse line at the other; an elongated element is projected from the ears that reaches the base of the piece and leaves a space on each side with respect to the central part of the body; the elongated elements end in the widened area in the manner of a hand; which presents an incised line; below the head in what could be the chest; surface is polished; and yellowish in color
10	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Flattened object at one end; At the other end there is a symmetrical anthropomorphic figure; The human figure consists of two concavely carved eyes that occupy a large part of the head; It consists of a pronounced nose with a cleft at the top that defines it; Below is a half-open mouth with the upper lip smaller than the lower one; the latter being very pronounced; The forehead is rounded; yellowish colour
11	N/A	Naturalistic Saladoid manatee adorno with Huecoidstyle incisions; zoomorphic.
12	N/A	Huecoid composite canine-manatee adorno; combined in hybrid form with dog; emerging from nose like a secondary adornos (or "alter-ego").
13	N/A	Cohoba inhalor carved into a fish; eyes contains inlays; two small green stone beads
14	N/A	anthropomorphic cohoba inhalor; man sitting while holding his feet above his head; carved genitalia; flaccid; hands holdings his thighs; seven fingers on each hand; feet with malleoli or shoes/sandals; decorative patterns on the feet; possibly depicting jewelry or bands or tattoos/painting; slightly protuding belly; bellybutton; circular; round amulet on the chest area; straight incisions going horisontally from both sides of the chest area; possibly ribs; ground open mouth; smiling or screaming; ground round eyes; almost connecting at the middle; triangular nose; hairline or headpiece with two swirls on the top of the head; connected with the feet; inhalor opening at the anus.

Dataset_ID	Context; Provenance	Description
15	N/A	Zoomorphic vomiting spatula; handle in the middle; two swallowing parts; polished and pointed; resembling a sitting bat; four toes; hands folded in front of the stomach area; three fingered; sharp shoulders pointing upwards; smiling or growling; big protruding ears; holes in the earlobes; round eyes and nostrils; nose is slightly protruding; triangle.
16	Donor: Eugène Revert ; Previous collection: Musée de l'Homme (America)	The top part of a vomiting spatula; antropomorphic motif; broken off after the handle; a neck connected to a round; bald head; big; circular eyes and small hole for nose; long; thin smile going up its chin.
17	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Elongated and cylindrical fragment; slightly curved; probably the handle of a vomiting spatula; pointed head; defined towards what looks like a mouth; an elongated hole is preserved through the mouth; may have contained an incrustation; eyes are arranged in the upper part of the head; hollowed out and rounded; head is separated from the trunk by a thin cylindrical neck; trunk shows flexed arms at its sides; followed by a design of incised lines that could represent the lower extremities; At the bottom there is a triangular design; At the end of the trunk the piece reduces its diameter in what must have been the beginning of the blade; Reddish yellow color.
18	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	An object consisting of a protrusion in the style of a head and neck; roughly carved; inconclusive
19	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Piece in the process of elaboration; slight intervention with roughing for the handle of the spatula.
20	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Elongated and flat object with incised details; maybe part of an ornithomorphic figure of which a fragment of the beak and wings have been preserved; rests on a rounded area with a flat rim containing a decoration of alternating parallel oblique lines; polished surface; and white color.
21	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Fragment of vomiting spatula; Hollowing marks on the ventral part of the blade; and fractured in the medial part; Poorly polished; cracks
22	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Object being prepared 2/3 of the length; cracks appear towards the end along the surface (concave); traces of roughing; The end is carved in the shape of a handle

Dataset_ID	Context; Provenance	Description
23	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Blade of an arrow-shaped vomiting spatula; a flat and thin object; cuts can be seen; a rounded tip; fractured in its middle part.
24	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Vomiting spatula handle; without decorative carvings; thin blade
25	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Leaf-shaped spatula blade; tuned at the distal end; thin blade
26	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Spatula blade with rounded tip; depression in the ventral part of the blade.
27	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Simple; polished object in a rectangular shape; handle of a vomiting spatula; fractured at the neck of the grip
28	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Fragment representing 2/3 of vomiting spatula; straight tip and a narrowing in the body towards the tip; well polished
29	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Spatula with two broad lateral planes and a rough handle; with cross sections at the end.
30	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Annular groove 1/3 at the most distal end of spatula; fractured with cutting and grinding marks
31	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Elongated spatula with handle; the handle is made up of a conical area whose sharpest part coincides with the end of the piece and its widest side is attached to an element with a triangular structure; from which the blade emerges; the blade has rounded sides and the lower part shows a wide groove; in the area of the handle there is wear and loss of fragments of material; which could be caused by erosion; polished surface; yellowish colour

Dataset_ID	Context; Provenance	Description
32	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	A head fractured at neck level; shape is elongated; facial features slightly projected; shows a cylindrical structure on the head as a headdress; Three incised lines are defined surrounding this cylinder whose area of contact with the head is slightly narrower than its upper part; Details of the eyes and nose in low relief; The nose is long and wide; The mouth is oval and elongated; shows a lip-shaped rim and two rows of twelve teeth each represented by incisions; On the sides of the head ears are slightly projecting and oval in shape; On the back of the head there is an elongated incised design; made up of oval elements; yellowish colour; polished surface
33	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Ovoid head; long; flattened structure; nose is small; eyes appear on the sides of the face and are made up of two concentric incised circles; forehead extends to the nose; and has a rectangular structure; decorated with incised lines that define a curved; swirly design; The mouth is represented by incisions and with a rectangular shape; It has two rows of five teeth each; Very close to the end of the mouth there is a biconical perforation; used to hang the piece; The figure is fractured at the neck level; gray in color and shows careful polishing
34	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Long; flat piece with a slightly concave cross section; On both sides in its upper part; a head and an arm have been carved; The figure occupies less than a quarter of the total size of the object; the rest is the blade of the spatula; head is represented in profile and is rounded; An incised line defines the forehead; oval elements represents the eyes; The mouth forms a closed curve; the inner part of which has been hollowed out; On the other side of the mouth is a small circle with a through biconical perforation; the circle and the mouth are joined at the bottom by an elongated shape of an arm; At the end of this ia a hand and three fingers; An almost identical head has been carved on the back of the piece; only the orientation of the curved motif above the nose changes; The edges of the blade have been reinforced in the middle and upper part with an incision; fractured in its lower middle area; a light yellowish color; polished in the area of the head and in the front part of the spatula.
35	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	The piece appears to be the part of the handle of a vomiting spatula; Represents a being represented in an image of an almost skeletonized individual

Dataset_ID	Context; Provenance	Description
36	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Elongated spatula; lower portion is missing; anthropomorphic motif; large head whose upper part is slightly narrower outlined by an incision; eyes are round in shape; outlined by a discreetly pronounced circular shape; nose; long and thin; its lower part it is joined by a band that encloses both eyes; mouth is oval and is represented by a rather deep recess; ears are very stylized and have a slightly oval shape; no neck and the upper arms appear folded and united on the chest; hands lack details; yellowish in color; smooth polish.
37	N/A	Manatee bone used for the teeth of the face on the duho; looks to be smiling or growling; the individual teeth has been carved out.
38	N/A	Effigy vessels with anthropomorphic motif mirrored on opposite sides of the container; container looks like a shared stomach between the two figures; four holes opposite each other on the edge of the container opening; figures are holding their hands up to their ears with open palms or closed fists; four fingered; smiling or growling; broad nosed; large protruding ears; holes in the earlobes; round eyes with pupils; looks to be frowning; head adorned with striated hair mass.
39	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Anthropomorphic female body figure; upright image; arms at the sides of the body; separated from it by elongated holes; The piece has lost its head at the base of the neck; robust appearance; broad and rounded shoulders; strong arms adorned with depressions in the form of stripes that could represent bracelets; The arms end in hands; somewhat disproportionate; placed exactly on the sides of a vulva; in the chest area; there are two hemispheres in the form of breasts and in the center of the abdomen; a perforation that imitates the navel; located in a small circle; The legs are very thick; They are adorned with depressions in the form of stripes; They end in thick feet with toes defined through incisions; Its color is light yellow
40	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Fragment of artifact; Elongated tabular piece with a pointed end; The other end has a fracture in one part that gives it; Carmelite colour



Dataset_ID	Context; Provenance	Description
41	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Volumetric piece with anthropomorphic cephalic representation; projected and angular face; features carved by thick cuts; eyes are oval in shape; large nose; the mouth is suggested but not represented; in the back; on the sides of the head; there are circular ears; related to elongated elements that could be a stylization of the arms; fractured from the neck down; polished on both sides; dark yellow colour
42	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Blade end of a vomiting spatula
43	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Anthropomorphic head figure; Stylized image with incised shapes; eyes are resolved with two holes and are contained in a kind of mask; gives the basis for a triangular nose and the mouth is an incised oval; Laterally there are two projections that suggest ears; Following the head is the blade of the spatula; On the back it has a biconical perforation; only the beginning of the blade is preserved; polished on parts of the face; Dark yellow colour
44	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Volumetric piece with anthropomorphic cephalic representation; Projected and angular face; features carved by thick cuts; eyes oval in shape; large nose; mouth is suggested but not represented; In the back; on the sides of the head; there are circular ears; related to elongated elements that could be a stylization of the arms; The neck is where the fracture that isolates this part of the piece occurs; polished on both sides; dark yellow colour
45	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Elongated spoon-like artifact with a thin cylindrical handle that continues with a hollowed-out spoon-like shovel in the center; badly damaged
46	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	End of a flat artifact; It ends in a gently rounded tip; White color on the ventral area and gray on the dorsal side
47	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Manatee rib in the process of being made
48	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Manatee rib with numerous cut marks; Raw abandoned object

Dataset_ID	Context; Provenance	Description
49	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Robust piece; from manatee rib; more widened and tapers towards the other end; exhibits numerous irregular cross sections as well as other longitudinal ones; Scratch marks are also visible towards the edges
50	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Portion of a vomiting spatula in preparation; the handle in which they were carving a figure was left unfinished; Perhaps it had a fracture before finishing and was abandoned; Gray color
51	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Elongated piece with cephalic decoration at one end; anthropomorphic and shows a figure with large circular pierced eyes and an oval mouth; arms are sticking out from the sides of the mouth and are folded next to the body; resting the hands on the chest; four fingers defined by incisions; A small peduncle appears at the back at neck level; with biconical perforation; perhaps served to suspend the piece; blade appears next to the figure and is fractured very close to its tip; some polish on both sides; yellowish colour
52	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Anthropozoomorphic body figure; shows the head of a bird; eyes large and round; arranged laterally; The beak has a small cylindrical element decorated with incisions; appears attached to the body; It has an anthropomorphic appearance suggested by the presence of two perforated discs resembling shoulders; from these come out short limbs that look like legs; The back shows; in the center; a long projection resembling a spinal column; From this projection a perforated peduncle is born that must have served to suspend the piece; polished and dark yellow in color
53	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Elongated and arched piece with cephalic decoration at one end; difficult to attribute to a human or animal entity; could have been a mixture of both characters; Two large round eyes stand out; deepened with a rim that surrounds them; In the lateral part there are two projections in the form of ears; a developed nose that presents a hemispherical shape with two small; not very deep; rectangular holes that resemble two nostrils
54	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Long; cylindrical object; One end; in a space that constitutes a quarter of the total length; has been sectioned to half its diameter; forming a kind of shovel with a rounded tip; At the other end there are two annular thickenings separated by a groove; This part ends in a fractured point; polished surface; yellowish colour; careful polishing and carving work; and the peculiarity of the shape; suggest that this object was part of a ritualistic tool.

Dataset_ID	Context; Provenance	Description
55	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Elongated and arched piece; cylindrical end; slightly pointed; This cylinder represents a third of the total size of the piece; a handle; separated from the rest of the object by a thickening resembling a guard; followed by a blade; elongated; curved and fine; lightly polished and is yellow in color
56	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Object probably made from a manatee rib; elongated and flat; with ends whose contour tapers towards the center of the piece; Here two lateral projections appear; arched; with very similar thickness; the definition of a blade does not stand out as it does in the spatulas; polished surface; white color
57	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci; Carried out by Rouse	Elongated shape hollowed out by the ventral area of the bone in the manner of a ladle; Rounded edges; Wider at the tip and narrower where the handle would be; the part where it is fractured; dark yellow colour; It could be a utilitarian or ceremonial artifact
58	Contributed by René Herrera Fritot, Orencio Miguel Alonso, Irving Rouse y el matrimonio Basi-Facci	Curved needle-shaped artifact; narrow tip (fractured); towards the other end a notch as if to tie thread through; resembles the needles for weaving current nets
59	N/A	Naturalistic Saladoid manatee adorno with Huecoidstyle incisions; zoomorphic; located in an unusual position on the inside of vessel near the rim; as if meant to peek just above the surface of the liquid contents.
60	Looted	Blades of manatee bone; spear-throwers and sword-clubs
61	Excavated by H. McKillop; illustrated by her in 1983; pictures	Canoe carving models; made from manatee rib bones; likely depicting actual boat forms; hollowed; bow and stern protruding from the body of the boat.
62	Excavated by H. McKillop; illustrated by her in 1983; pictures	Canoe carving models; made from manatee rib bones; likely depicting actual boat forms; hollowed.
63	Excavated by H. McKillop; illustrated by her in 1983; pictures	Canoe carving models; made from manatee rib bones; likely depicting actual boat forms; hollowed.
64	Excavated by H. McKillop; illustrated by her in 1983; pictures	Canoe carving models; made from manatee rib bones; likely depicting actual boat forms; not hollowed.
65	N/A	Canoe models identical to those found in Moho Caye.
66	Excavated	"Beautifully" carved manatee bones

Dataset_ID	Context; Provenance	Description
67	In three Panamanian archaeological sites; Sitio Conte; El Hatillo and El Caño elite cemeteries; carved manatee bones were identified.	Carved manatee bones
68	Excavated by H. McKillop; illustrated by her in 1983	anthropomorphic standing figurine; possibly 1/4 head-to-body ratio; unknown gender; possibly male; slightly eroded hands in a clutched or rested position in front of chest at the heart of the body along the vertical axis of symmetry; broad; gently curved shoulders; slightly spread legs; no feet; possibly unfinished or broken off; large; rounded thighs and buttocks; face mostly eroded; holes for eyes and mouth; ears protruding; no holes in the earlobes; oval; bald head with flattening on the top.
69	Excavated by H. McKillop; illustrated by her in 1983	anthropomorphic standing figurine from waist-up; possibly 1/4 head-to-body ratio; male; possibly arms folded in front of stomach or chest area; sharp edges; straight; relaxed mouth with thick lips; half-moon or closed eyes with eyelids; little to no nose; ears protruding; no holes in the earlobes; head adorned possible short hair; straight back; no legs; shows signs of water or other erosion.
70	Excavated by H. McKillop; illustrated by her in 1983	anthropomorphic standing figurine; male; 1/4 head-to-body ratio; slightly eroded hands in a clutched or rested position in front of chest at the heart of the body along the vertical axis of symmetry; broad; gently curved shoulders; closed legs; feet like round blocks; possibly unfinished; large and rounded thighs and buttocks; belt around waist; closed and relaxed mouth a bit downturned; thin eyes mostly eroded; prominent and bowed nose; ears protruding; no holes in the earlobes; oval; bald head with flattening on the top.
71	Offering; large ceramic vessel; found in one of the main architectural groups of the site; the May group	anthropomorphic standing figurine ; 1/4 head-to-body ratio; possibly female; hands clasped in front of chest-area; sloping; gently curved shoulders; slightly parted legs; feet broken off from ankles; large and round thighs and buttocks; no smile and relaxed mouth; thin; slitted eyes; prominent; bowed nose; ears protruding with no holes in the earlobes; head adorned with headband; straight back; both the posterior and anterior has chops in its surface; one elbow is missing.
72	Excavated by H. McKillop; illustrated by her in 1983; pictures	Musical rasp of whole or sections of manatee rib bones; shallow; parallel incisions cut crosswise along the inner face of the rib.

Dataset_ID	Context; Provenance	Description
73	Discovered by Eaton	Identical to the manatee bone rasp from Moho Cay; a complete rib with shallow, parallel incisions cut cross-wise along the inner face of the bone; incised with 30 parallel grooves; perpendicular to the longitudinal axis of the rib; possibly an omichichauztli.
74	N/A	Rasps described as definitely/likely of manatee bone; made from a section of rib bone.
75	N/A	Rasps described as definitely/likely of manatee bone; made from a section of rib bone.
76	Excavated first in the 1990's (Instituto Nacional de Antropología e Historia, Mexico) by Sierra Sosa; archaeological site situated on an island; in the middle of ancient salty marshes. The site was inhabited between AD 250 and 700, first as a small fishing village, and later as a long-distance salt trading port. To this list adds a small number of artifacts, presumably carved out of manatee bone.	Iincised spindle whorl (2); polished spindle whorl (2)
77	N/A	Carved manatee rib
78	N/A	Restored carved rib; one perforation; figure at base.
79	N/A	Carved manatee bone; head broken off; partially restored.
80	N/A	Carved manate bone; one perforation; carved figure at base.
81	N/A	Manatee rib; carved and broken in two; one missing head; carved anthropomorphic figures at the base.
82	N/A	Carved manatee rib; head broken off; partially restored; reptilian zoomorphic figure.
83	N/A	Carved manatee bone; carved zoomorphic figure; effigy ornament; corroded; perforated.
84	N/A	Carved manatee bone; zoomorphic; bone effigy.
85	N/A	Carved rib; zoomorphic; contains metal; mended.

Dataset_ID	Context; Provenance	Description
86	N/A	Crocodile carved on manatee rib.
87	N/A	Pottery vessel lug representing a manatee; ceramic effigy body sherd; manatee sculpted.
88	N/A	Pair of carved manatee ribs; anthropomorphic
89	N/A	Pair of carved manatee ribs; anthropomorphic
90	N/A	Gold pendant; possible manatee.
91	N/A	Carved manatee pendants; crocodile zoomorphic; rib; god
92	N/A	Gold; ornament; conical; gold overlay on butt end of bone; perforated.
93	Illustrated by David M. Pendergast	anthropomorphic standing figurine ; 1/4 head-to-body ratio; possibly female; hands crossed in front of chest-area; open palms facing upwards; broad; gently curved shoulders; closed legs; feet broken off from ankles; large and round thighs and buttocks; slight smile and relaxed mouth; thinly; slitted eyes; prominent; bowed nose; ears protruding with no holes in the earlobes; head adorned with striated hair mass in front and back; straight back; both the posterior and anterior has chops in its surface; with the posterior in considerable worse condition; one arm from upper arm to elbow is missing.
94	N/A	Large bowls with restricted orifices have vertical strap handles with small conventionalized manatee lugs at the bend; has a dull yellow or orange slip and red and black designs; the latter are either geometric or else elaborate and symbolic; suggesting degenerate Maya types.
95	N/A	Large restorable vessel with manatee lugs on the handle and a " braided " design below the neck; This ware is reminiscent of certain late polychrome types from the Uloa region; the Polychrome II ware from the Bay Islands; and painted sherds at various sites in northern Honduras; from Trujillo south into the interior.
96	N/A	Four stops; and a tubular mouth piece at one end; whistles clearly; Besides the four upper stops there is a hole on the lower surface where the mouthpiece joins the body; It strongly suggests a manatee in form; and the two upper flippers are perforated for suspension; Its upper surface is decorated with an incised and punctate design.

Dataset_ID	Context; Provenance	Description
97	N/A	Larger ocarina; close replica of a manatee; especially in head form; It is composed of coarse brick red pottery with white grit temper.
98	From Junius Bird's collection	Foot from lug possibly depicting a manatee head; two cylindrical feet; one hollow and one solid.
99	From Junius Bird's collection	Pottery shard from jug depicting manatee head; Polychrome II
100	From Junius Bird's collection	Pottery shard from jug depicting manatee head; Polychrome II
101	From the collection of Mr. Mitchell-Hedges	Sherd part of a broad; vertical strap handle with a conventionalized manatee head lug on the upper bend.
102	From the collection of Mr. Mitchell-Hedges	Elaborate monochrome sherd; extreme conventionalizations of the manatee head; head motif though they resemble the duck-bill platypus as much as anything else; the vessel had a tripod base; and the incised foot is solid.
103	From the collection of Mr. Mitchell-Hedges	Elaborate monochrome sherd; extreme conventionalizations of the manatee head; head motif though they resemble the duck-bill platypus as much as anything else; the vessel had a tripod base; and the incised foot is solid.
104	N/A	One curved sherd with a conventionalized manatee head lug; This lug has a purplish-red framework of design around it; The shape of the lug suggests Polychrome II; but the painted design is more like Polychrome I.
105	N/A	Fragment of loop handle and pottery sherds depicting manatee head and fin; polished brown surface with no paint.
106	From the collection of Junius Bird	The broken-off lugs include; several manatee heads with the concentric circle design on each side.
107	From the collection of Junius Bird	Rim sherd with a dark red slip and a conventionalized manatee head lug on the side; The vessel is 1 cm thick at the lip; and the lug is surrounded by a black line frame; There are six vertical loop handles with a manatee head in relief on the upper bend; these are typically Polychrome II in type; but only traces of brown slip and no design elements remain; owing to weathering.
108	N/A	Six pottery sherds depicting manatee heads.

Dataset_ID	Context; Provenance	Description
109	N/A	Small vases regarded as models of larger vases in daily use; primarily for offertory purposes; composed of thin; well-finished pottery with fine grit tempering; annular base is decorated with broad; horizontally incised lines and heavy punctate marks; the upper body is absent; the main design is but scantily represented by appliqued strips of clay and punctate impressions; probably represents one version of the manatee motif.
110	From the collection of Mr. Mitchell-Hedges	A highly polished; centrally constricted vase with three solid cylindrical feet; two conventionalized manatee head lugs with incised concentric circles.
111	N/A	Upturned head from vessel rim; zoomorphic
112	N/A	Tabular lug with incised snout and cranial design; broken base; zoomorphic.
113	N/A	Stylized head with curvilinear incisions on snout and eyes; zoomorphic.
114	Donated by Walter Edward Guinness, 1st Baron Moyne	Zoomorphic pottery adorno in the form of a tapir or manatee (?); hand-modelled; punched; pierced
115	Exchanged with Daniel Bruce	Piece of manatee rib; cut or worked.
116	Exchanged with Daniel Bruce	Piece of worked manatee bone which has been cut around to make a knob on top (broken off)
117	Exchanged with Daniel Bruce	Piece of manatee rib bone with two grooves cut in one end and signs of use as a hammer (?).
118	Donated by Walter Edward Guinness, 1st Baron Moyne	Jar made of pottery with manatee adornos on the handles; punched; in fair condition
119	Donated by Walter Edward Guinness, 1st Baron Moyne	Pottery tripod jar with manatee adornos and legs with punched decoration; and incisions; fairly good condition
120	Donated by Walter Edward Guinness, 1st Baron Moyne	Pottery tripod waisted jar with manatee adornos and legs with punched decoration; incised; in fairly good condition
121	Donated by Walter Edward Guinness, 1st Baron Moyne	Ocarina in the form of a manatee (?) perforated with four finger holes; in good condition
122	Donated by Walter Edward Guinness, 1st Baron Moyne	Ocarina in the form of a bird or manatee; perforated and incised; with four finger holes; in very good condition



Dataset_ID	Context; Provenance	Description
123	Purchase; Oscar de la Renta Gift; 1997; Collected in Dominican Republic by Vincent P. Fay; 1967–1968; Vincent P. Fay; New York, 1968–1997	Cohoba spoon with zoomorphic motif; lizard; carved round eyes; nostrils; slitted pupils; decorative triangle and spiral pattern.
124	Purchase; Mary R. Morgan; Mary O'Boyle II and Mr. and Mrs. Frederick E. Landmann Gifts; The Michael C. Rockefeller Memorial Collection; Gift of Nelson A. Rockefeller and Bequest of Nelson A. Rockefeller; by exchange; and Gift of Nathan Cummings; by exchange; 1982; Vincent P. Fay; New York; ca. 1968–1982	Vomiting spatula with zoomorphic motif; lizard; mouth shaped in from the tip of the handle; on the side of the head; carved round eyes; nostrils; slitted pupils; decorative triangle pattern.
125	Excavated by Theodoor de Booy (1882-1919, an MAI staff member) in late 1916 or early 1917 during MAI-sponsored fieldwork.	Animal bone; probably manatee; waste from a kitchen midden
126	Collection history unknown; acquired from area land owners in 1915 during the Mark Raymond Harrington Cuba Expedition; led by Mark Raymond Harrington (1882-1971; MAI staff member) and sponsored by George Heye.	Carved and ground awl or perforator; multiple fissures and cracks; looks to have been broken of at one; not a clean break
127	Collection history unknown; acquired from an unknown source in Puerto Rico in 1905 by Frank D. Utley (1874-1943, MAI staff member) during a collecting trip sponsored by George Heye.	Carved and ground awl or perforator; pointed tip
128	N/A	Carved and ground awl or perforator; pointed tip
129	Collected or excavated by Caribbean archaeologist and historian Adolfo de Hostos (1887-1982) at an unknown date; purchased by George Heye from Adolfo de Hostos in 1908.	Part of a figure; badly eroded; looks to have been decorated by protruding carvings

Dataset_ID	Context; Provenance	Description
130	Excavated in 1934 during the Willard V. King Virgin Island Expedition; led by archaeologist Lewis J. Korn (1903-1992) and sponsored by MAI and Willard V. King (1868-1955; a New York City banker and MAI trustee).	Figure of possible anthropomorphic faze; multiple fissures and cracks; badly eroded; faint outlines of rounded eyes and triangular nose
131	Collected or excavated in 1915 by unnamed local residents; acquired from them during the Mark Raymond Harrington Cuba Expedition; led by Mark Raymond Harrington (1882-1971, MAI staff member) and sponsored by George Heye.	Part of a spoon or ladle; broken; carved and ground
132	Excavated in 1934 during the Willard V. King Virgin Island Expedition; led by archaeologist Lewis J. Korn (1903-1992) and sponsored by MAI and Willard V. King (1868-1955; a New York City banker and MAI trustee).	End part of a vomiting spatula; broken; ground
133	Excavated in 1915 during the Mark Raymond Harrington Cuba; expedition led by Mark Raymond Harrington; 1882-1971; MAI staff member; sponsored by George Heye.	Ceremonial or ritual item; fragment of vomiting spatula; lower part; ground and carved.
134	Excavated in 1915 during the Mark Raymond Harrington Cuba Expedition; led by Mark Raymond Harrington (1882-1971; MAI staff member) and sponsored by George Heye.	Two separate parts of a vomiting spatula with no motif; broken; ground; carved and notched
135	Collected in 1938 by Dr. Victor Wolfgang von Hagen (1908-1985, an American explorer; anthropologist, and travel writer); purchased by MAI from Victor von Hagen in 1938.	Game call made out of manatee bone; carved; half-moon with rased edges; small hole in the middle
136	Excavated in 1915 during the Mark Raymond Harrington Cuba; expedition led by Mark Raymond Harrington; 1882-1971; MAI staff member; sponsored by George Heye.	Ceremonial or ritual item; fragment of vomiting spatula; upper part; ground; carved and notched; broken in two parts horisontally in the middle; decorated handle; anthropomorphic face possibly zemi; with thick; parted lips; eyes with a round pattern connected like glasses; top part of handle is broken off; possible ears.

Dataset_ID	Context; Provenance	Description
137	Collection history unknown; formerly in the collections of Howard M. Rosengarten and Enrique Onesimo Guerrero; both New York city attorneys; donated to MAI by Howard Rosengarten and Enrique Onesimo Guerrero in 1974.	Handle of a vomiting spatula that is broken off; possible antropomorphic design; three parts; possibly head; body; feet; hands looks to be rested above the chest area; head has animal features; and maybe a snout; incised parallell lines on the bottom of the figure.
138	Collection history unknown; formerly in the collection of Mr. and Mrs. Del Pino (of San Juan; Puerto Rico); purchased by MAI at an auction held by the Parke-Bernet Galleries (New York City) that included items from the Del Pino collection in 1972.	Pendant; anthropomorphic motif; adornment or jewelry; eyes; mouth; nose and headpiece/hair/wrinkles are ground; carved; or drilled into the bone; end piece of pointed bone; possibly manatee rib; oval; indented eyes; no pupil; open mouth; no teeth; lips; broad; straight nose.
139	Collected or excavated by Caribbean archaeologist and historian Adolfo de Hostos (1887-1982) at an unknown date; purchased by George Heye from Adolfo de Hostos in 1908.	Spoon with parallell lines incised crosswise at the handle.
140	Excavated by Theodoor de Booy (1882-1919, an MAI staff member) in late 1916 or early 1917 during MAI-sponsored fieldwork.	anthropomorphic vomiting spatula figurine; whole body human or zemi carved along the lenght of the spatula; incised; drilled; inlaid; carved decorative patterns; head part of the handle; legs on the side of the part that is swallowed; slightly bent legs; long; oval head; round eyes; nose; Hands holded over the stomach area; smilig; growling or just thick lips.
141	Collected or excavated in 1915 by unnamed local residents; acquired from them during the Mark Raymond Harrington Cuba Expedition; led by Mark Raymond Harrington (1882-1971, MAI staff member) and sponsored by George Heye.	Broken vomiting spatula with no motif; carved handle; thinner than swallowing part; filed to be easier to hold; rounded knob at the end of the handle.

Dataset_ID	Context; Provenance	Description
142	Collection history unknown; formerly in the collection of William Huntting Howell (1904-1982) and possibly inherited from his father Thomas A. Howell Sr. (1877-1930; owner of the West Indies Sugar Company and Corporación Azucarera Boca Chica and a frequent traveler to the Caribbean); donated to MAI by William Huntting Howell in 1938.	Vomiting spatula with no motifs; looks like a whole manatee rib; the handle could be missing a motif decoration/carving; parallell incisions cut crosswise along the inner face of the rib; circular punctuate wholes ground into the bone in between the parallell incisions.
143	Collection history unknown; formerly in the collection of William Huntting Howell (1904-1982) and possibly inherited from his father Thomas A. Howell Sr. (1877-1930; owner of the West Indies Sugar Company and Corporación Azucarera Boca Chica and a frequent traveler to the Caribbean); donated to MAI by William Huntting Howell in 1938.	Vomiting spatula with no motifs; looks like a whole manatee rib; one end cut or filed off crosswise; clean cut; possible red pigmentation; other end formed like a knob; could be missing a motif decoration/carving; parallell incisions cut crosswise along the inner face of the rib; circular punctuate wholes ground into the bone in between the parallell incisions.
144	Collected by local residents Cecilio Mosquera and his brother at an unknown date or excavated in 1915 during the Mark Raymond Harrington Cuba Expedition; led by Mark Raymond Harrington (1882-1971, MAI staff member) and sponsored by George Heye.	Worked bone; carved and ground; waste
145	Accession YPM.04849, rcvd. via collection, 1934	Worked manatee bone awl
146	Accession YPM.07468, rcvd. via donation, 1982	Zoomorphic ceramic figurine; possibly of a manatee; with traces of red pigment
147	Accession YPM.07468, rcvd. via donation, 1982	Gray-brown stone manatee
148	Accession YPM.04936, rcvd. via collection, 1935	Manatee bone pick
149	Accession YPM.04936, rcvd. via collection, 1935	Manatee bone pick
150	Accession YPM.04936, rcvd. via collection, 1935	Manatee bone pick

Dataset_ID	Context; Provenance	Description
151	Accession YPM.04849, rcvd. via collection, 1934	Manatee bone pick
152	Accession YPM.04849, rcvd. via collection, 1934	Manatee bone pick
153	Accession YPM.04936, rcvd. via collection, 1935	Two manatee bone picks
154	Accession YPM.04936, rcvd. via collection, 1935	Manatee bone pick
155	Given as a gift; With Merrin Gallery, New York, 1985; Thomas T. Solley (1924–2006), Bloomington, Ind.	anthropomorphic standing figurine; 1/4 head-to-body ratio; traces of red pigment; male; hands in a clutched or rested position in front of chest at the heart of the body along the vertical axis of symmetry; broad; gently curved shoulders; slightly spread legs; feet pointed outwards; large and round thighs and buttocks; open relaxed mouth; thinly; slitted eyes; prominent; bowed nose; protruding ears with holes in the earlobes; oval; bald head with slight flattening on the top; slightly s-shaped back; both the posterior and anterior has thin cracks and chops in its surface; one side profile shows a vertical fissure from hip to knee.
156	From the collection of Erika Hughes, Hughes; Bequest of Erika and Thomas Leland Hughes; B.A. 1945.	Zemi sculpture; antropomorphic motif; carved and decorated; growling; smiling; showing teeth; parallell incisions cut along the bone to look like headpiece or striated hair and clothes showing open neck and chest area in v-formation; big round eyes with pupils; with a round pattern connected like glasses; small round nostrils; round necklace; navel or amulet on the chest area.
157	From the collection of Erika Hughes, Hughes; Bequest of Erika and Thomas Leland Hughes; B.A. 1945.	anthropomorphic vomiting spatula figurine; tool or equipment; upper part of the spatula is missing; handle is intact; whole body human or zemi; carved decorative patterns; head connected to swallowing part of the stick; two legged; closed legs; carved; patterned clothes hiding the genetalia; hands possibly folded over stomach area or cropped clothes showing open neck and chest area in v-formation; bellybutton; slitted eyes; thick lips; closed; straight mouth; broad nose; carved decorated head piece; in zigzag pattern; small circular ground marks going virtically up the sides of the spatula.



Appendix IV  
Historical Mentions

## 4.1 Historical Mentions – Data

Dataset_ID	Location	Year_reported	Type_of_reference	Comments	Reference	Link
1	Caribbean	1493	Historical mention	Mention; sighting; additional note: He (Columbus) also recorded seeing skulls in the homes of farmers in eastern Cuba (in Vaquez, 2015)	Gil, J. (1989). Mitos y utopias del Descubrimiento: Colón y su tiempo, p.43. Alianza Universidad, Madrid.	<a href="http://cehresearch.org/SeaCite/seacite.php">http://cehresearch.org/SeaCite/seacite.php</a>
2	Cuba; Hispaniola	1494	Historical mention	Based on Columbus's own journal of the first voyage (which survives only in the form of an abstract and paraphrase by Bartolomé de Las Casas and which has appeared in various editions and translations)	Morison, S.E. 1942 Admiral of the Ocean Sea: a life of Christopher Columbus. Boston, Little, Brown & Co.: xx + 680. Illus. Feb. 1942. - Also publ. simultaneously in a 2-vol. ed. that includes notes and other material (vol. 1: xlv + 448; vol. 2: vii + 445).	<a href="http://Bibliography_&amp;_Index_of_the_Sirenia_&amp;_Desmostylia_(sirenianbiblio.org)">Bibliography &amp; Index of the Sirenia &amp; Desmostylia (sirenianbiblio.org)</a>
3	Caribbean	1498	Historical mention	Mention; sighting; usage	Galvão, António (1989) [1573]. Tratado dos Descobrimentos, pp. 41-42. Coleção Alfa, Biblioteca da Expansão Portuguesa, nº 13, Lisboa.	<a href="http://cehresearch.org/SeaCite/seacite.php">http://cehresearch.org/SeaCite/seacite.php</a>
4	Venezuela	1520	Historical mention	Legend or sighting	Debrot, A. O., Eybrecht, L., Dawson, E., Cremer, J., & Stelten, R. (2020). The Antillean manatee (Trichechus manatus manatus) in the southern Caribbean: A compilation and review of records for the Dutch Leeward islands and the central Venezuelan coast. Marine Mammal Science, 36(1), 324-333.	<a href="https://www.dcbd.nl/sites/default/files/documents/Manatee2019%2016538701.pdf">https://www.dcbd.nl/sites/default/files/documents/Manatee2019%2016538701.pdf</a>



Datas et_ID	Location	Year _reported	Type_of _reference	Comments	Reference	Link
5	Caribbean	1585	Historical mention	Mention	Paré, Ambroise (1982) [1585]. On Monsters and Marvels, p. 107. Translated with an Introduction and Notes by Janis L. Pallister. The University of Chicago Press, Lond	<a href="http://cehresearch.org/SeaCite/seacite.php">http://cehresearch.org/SeaCite/seacite.php</a>
6	Caribbean ; Spanish Cuba; Puerto Rico; Jamaica	1590	Historical mention	Mention; sighting; usage	Acosta, José (1590). Historia natural y moral de las Índias, p. 7. Casa de Juan de León, Sevilla.	<a href="http://cehresearch.org/SeaCite/seacite.php">http://cehresearch.org/SeaCite/seacite.php</a>
7	Santo Domingo	1596	Historical mention	Mention; sighting; usage; voyage account of the ship S. Francisco in 1596	Brito, Bernardo Gomes de (1736) Historia Tragico Maritima Em que se escrevem chronologicamente os Naufragios que tiveraõ as Naos de Portugal, depois que se poz em exercicio a Navegaçaõ da India, pp 386-387. Tomo Segundo OFFERECIDO A' Augusta Magestade do muito Alto, e muito Poderoso Rey D. Joaõ V. Nosso Senhor. Lisboa Occidental, Na Officina da Congregaçaõ do Oratorio.	<a href="http://cehresearch.org/SeaCite/seacite.php">http://cehresearch.org/SeaCite/seacite.php</a>
8	Caribbean	1608	Historical mention	Description by english explorer Henry Hudson fom his logbook.	Guzman, F. (2018). Maidens of the Sea: Exploring the Histories of Mermaids, Mami Wata and Yemaya (Doctoral dissertation, faculty of English in partial fulfillment of the requirements for the degree of Master of Arts, Mercy College, New York).	<a href="https://franchescaguzman.com/images/maidens-of-the-sea.pdf">https://franchescaguzman.com/images/maidens-of-the-sea.pdf</a>

Datas et_ID	Location	Year _reported	Type_of _reference	Comments	Reference	Link
9	Brazil	1614	Historical mention	Statement in the Jornada do Maranhao; account	Anonymus, Collecção de Noticias para a Historia e Geografia das Nações Ultramarinas, que vivem nos domínios Portuguezes, ou lhes são vizinhas, Tomo I-II (Lisboa, 1812), 117.	<a href="https://doi.org/10.1177/0843871417713683">https://doi.org/10.1177/0843871417713683</a>
10	Caribbean	1614	Historical mention	Description by captain John Smith.	Guzman, F. (2018). Maidens of the Sea: Exploring the Histories of Mermaids, Mami Wata and Yemaya (Doctoral dissertation, faculty of English in partial fulfillment of the requirements for the degree of Master of Arts, Mercy College, New York).	<a href="https://francescaguzman.com/images/maidens-of-the-sea.pdf">https://francescaguzman.com/images/maidens-of-the-sea.pdf</a>
11	Brazil	1618	Historical mention	Statement by Brandao	Brandao, Dialogos, 55.	<a href="https://doi.org/10.1177/0843871417713683">https://doi.org/10.1177/0843871417713683</a>
12	Brazil	1618	Historical mention	Statement by Brandao	Brandao, Dialogos, 55.	<a href="https://doi.org/10.1177/0843871417713683">https://doi.org/10.1177/0843871417713683</a>
13	Caribbean	1655	Historical mention	A letter dated 8 June 1655 from Petrus Stuyvesant, director-general of New Netherlands to a Matthias Beck, the vice-director of Curaçao.	Debrot, A. O., Eybrecht, L., Dawson, E., Cremer, J., & Stelten, R. (2020). The Antillean manatee ( <i>Trichechus manatus manatus</i> ) in the southern Caribbean: A compilation and review of records for the Dutch Leeward islands and the central Venezuelan coast. <i>Marine Mammal Science</i> , 36(1), 324-333.	<a href="https://www.dcbd.nl/sites/default/files/documents/Manatee2019%2016538701.pdf">https://www.dcbd.nl/sites/default/files/documents/Manatee2019%2016538701.pdf</a>

Dataset_ID	Location	Year_reported	Type_of_reference	Comments	Reference	Link
14	Caribbean	1727	Historical mention	Mention; usage	Semedo, João Curvo (1727) Memorial de varios simplices que da India Oriental, da America & de outras partes do mundo vem ao nosso Reyno para remedio de muytas doenças, no qual se achãrão as virtudes de cada huma, & o modo como se devem usar, p. 6. Lisbon [un-identified publisher]: 32 pages, 2 unnumbered pages ; 28 cm (folio).	<a href="http://cehresearch.org/SeaCite/seacite.php">http://cehresearch.org/SeaCite/seacite.php</a>
15	Caribbean	1727	Historical mention	Mention; usage	Semedo, João Curvo (1727) Memorial de varios simplices que da India Oriental, da America & de outras partes do mundo vem ao nosso Reyno para remedio de muytas doenças, no qual se achãrão as virtudes de cada huma, & o modo como se devem usar, p. 10. Lisbon [un-identified publisher]: 32 pages, 2 unnumbered pages ; 28 cm (folio).	<a href="http://cehresearch.org/SeaCite/seacite.php">http://cehresearch.org/SeaCite/seacite.php</a>
16	Caribbean	1727	Historical mention	Mention; usage	Semedo, João Curvo (1727) Memorial de varios simplices que da India Oriental, da America & de outras partes do mundo vem ao nosso Reyno para remedio de muytas doenças, no qual se achãrão as virtudes de cada huma, & o modo como se devem usar, p. 10. Lisbon [un-identified publisher]: 32 pages, 2 unnumbered pages ; 28 cm (folio).	<a href="http://cehresearch.org/SeaCite/seacite.php">http://cehresearch.org/SeaCite/seacite.php</a>

Datas et_ID	Location	Year _reported	Type_of _reference	Comments	Reference	Link
17	St. John's and St. Margaret's Islands	1764	Historical mention	Historical Periodical; the Royal Magazine ; London; J. Coote	N/A	<a href="https://www.proquest.com/historical-periodicals/untitled-item/docview/3964117/se-2?accountid=12870">https://www.proquest.com/historical-periodicals/untitled-item/docview/3964117/se-2?accountid=12870</a>
18	Caribbean	1765	Historical mention	Mention; sighting	José Monteiro de Carvalho (1765) Dicionario Portuguez das Plantas, Arbustos, Matas, Arvores, Animaes quadrupedes, e reptis, Aves, Peixes, Mariscos, Insectos, Gomas, Metaes, Pedras, Terras, Mineraes, &c. que a Divina Omnipotencia creou no globo terraqueo para utilidade dos viventes, p. 356. Lisboa, Na Officina de Miguel Manescal da Costa: 600.	<a href="http://cehresearch.org/SeaCite/seacite.php">http://cehresearch.org/SeaCite/seacite.php</a>
19	Caribbean	1767	Historical mention	Historical Periodical; the Weekly amusement; London; R. Goadby; seems to be copied from the 1764 edition; the Royal Magazine	N/A	<a href="https://www.proquest.com/historical-periodicals/description-manati-sea-cow-animal/docview/4048329/se-2?accountid=12870">https://www.proquest.com/historical-periodicals/description-manati-sea-cow-animal/docview/4048329/se-2?accountid=12870</a>
20	Hispaniola	1770	Historical mention	Lectures on the materia medica: containing the natural history of drugs, their virtues and doses: also directions for the study of the materia medica; and an appendix on the method of prescribing. Published from the manuscript of the late Dr. Charles Alston ... by John Hope.... In two volumes. Vol. II.	1770 Alston, C. (Trichechus; petrous bones; medicinal use; 537-538.)	<a href="https://www.proquest.com/historical-periodicals/description-manati-sea-cow-animal/docview/4048329/se-2?accountid=12870">https://www.proquest.com/historical-periodicals/description-manati-sea-cow-animal/docview/4048329/se-2?accountid=12870</a> <a href="http://www.sirenianbiblio.org/">Bibliography &amp; Index of the Sirenia &amp; Desmostylia (sirenianbiblio.org)</a>

Datas et_ID	Location	Year _reported	Type_of _reference	Comments	Reference	Link
21	Hispaniola	1770	Historical mention	Lectures on the materia medica: containing the natural history of drugs, their virtues and doses: also directions for the study of the materia medica; and an appendix on the method of prescribing. Published from the manuscript of the late Dr. Charles Alston ... by John Hope.... In two volumes. Vol. II.	1770 Alston, C. (Trichechus; petrous bones; medicinal use; 537-538.)	<a href="#">Bibliography &amp; Index of the Sirenia &amp; Desmostylia (sirenianbiblio.org)</a>
22	Hispaniola	1770	Historical mention	Lectures on the materia medica: containing the natural history of drugs, their virtues and doses: also directions for the study of the materia medica; and an appendix on the method of prescribing. Published from the manuscript of the late Dr. Charles Alston ... by John Hope.... In two volumes. Vol. II.	1770 Alston, C. (Trichechus; petrous bones; medicinal use; 537-538.)	<a href="#">Bibliography &amp; Index of the Sirenia &amp; Desmostylia (sirenianbiblio.org)</a>
23	Caribbean	1789	Historical mention	Mention; usage; trade to Portugal	Vandelli, Domingos (1789) Memoria sobre algumas produções naturais deste Reino, das quais se poderia tirar utilidade, p. 236. In Memorias Economicas da Academia Real das Sciencias de Lisboa... Tomo I. Na Officina da Academia Real das Sciencias, Lisboa: 176-186.	<a href="http://cehresearch.org/SeaCite/seacite.php">http://cehresearch.org/SeaCite/seacite.php</a>

Datas et_ID	Location	Year _reported	Type_of _reference	Comments	Reference	Link
24	Surinam	1796	Historical mention	Narrative of J.B. Stedman	Narrative, of a five years' expedition in Guiana, on the wild coast of South America; from the year 1772, to 1777. London, J. Johnson & J. Edwards (2 vols.): Vol. 2: Illus. –Allen 444. Various later eds. & transls. Reprs.: Barre (Mass.), Imprint Soc., 1971 (2 vols.); Amherst (Mass.), Univ. Massachusetts, 1972 (1 vol.).	<a href="#">Bibliography &amp; Index of the Sirenia &amp; Desmostylia (sirenianbiblio.org)</a>
25	Santo Domingo	1809	Historical mention	Account from a Michel Étienne Descourtilz.	1809 Descourtilz, M.E. (TMM; San Domingo)	<a href="#">Bibliography &amp; Index of the Sirenia &amp; Desmostylia (sirenianbiblio.org)</a>
26	Caribbean	1840	Historical mention	Mention	Anónimo (1840) Elementos da Historia Natural dos Animaes, seguidos de um Vocabulario Franco-Lusitano, Segundo a nomenclatura do Doutor Brotero, p. 66. Coimbra, Na i	<a href="http://cehresearch.org/SeaCite/seacite.php">http://cehresearch.org/SeaCite/seacite.php</a>
27	Caribbean	1845	Historical mention	Newspapers and gazettes; in weekly Commercial Remembrancer; shipping intelligence	N/A	<a href="#">10 Jul 1845 - SHIPPING INTELLIGENCE. - Trove (nla.gov.au)</a>
28	Haiti; Jamaica	1851	Historical mention	Observations on manatees in Haiti and Jamaica	Gosse, P. H. and Hill, R. (1851) A naturalist's sojourn in Jamaica. London, Longman, Brown, Green & Longmans: [v]-xxiv + 508. Frontisp. 7 pls. - Additional notice by Gosse in Hardwicke's Science-Gossip 12(136): 88, 1876.	<a href="#">Bibliography &amp; Index of the Sirenia &amp; Desmostylia (sirenianbiblio.org)</a>

Datas et_ID	Location	Year _reported	Type_of _reference	Comments	Reference	Link
29	British Guyana	1935	Contemporary; report	Mention in mythology	Loven, S., 1935 Origins of the Tainan Culture, West Indies. Goteborg.	<a href="https://doi.org/10.1177/0843871417713683">https://doi.org/10.1177/0843871417713683</a>
30	Caribbean	1501-1600	Historical mention	Mention; sighting; usage	Oviedo, Gonzalo Fernández (1995). Sumário de la Natural História de las Índias, pp 145-149. Edición de Nicolás del Castillo Mathieu, Santafé de Bogotá.	<a href="http://cehresearch.org/SeaCite/seacite.php">http://cehresearch.org/SeaCite/seacite.php</a>
31	Caribbean	1501-1600	Historical mention	Mention; sighting	Oviedo, Gonzalo Fernández (1995). Sumário de la Natural História de las Índias, pp 145-149. Edición de Nicolás del Castillo Mathieu, Santafé de Bogotá.	<a href="http://cehresearch.org/SeaCite/seacite.php">http://cehresearch.org/SeaCite/seacite.php</a>
32	Caribbean	1501-1600	Historical mention	Mention; sighting	Walter, Jaime (1963). Dimas Bosque, físico-mor da Índia e as Sereias, pp. 268-270. Studia, nº 12: 261-271.	<a href="http://cehresearch.org/SeaCite/seacite.php">http://cehresearch.org/SeaCite/seacite.php</a>
33	Santo Domingo	1505-1567	Historical mention	Mention; sighting; usage	Santa Cruz, Alonso de 1505-1567 (1984) Alonso de Santa Cruz y su Obra Cosmographica, pp. 304-305. Volume 2. Instituto Gonzalo Fernández de Oviedo".	<a href="http://cehresearch.org/SeaCite/seacite.php">http://cehresearch.org/SeaCite/seacite.php</a>
34	Venezuela	1535	Historical mention	Object of trade	Debrot, A. O., Eybrecht, L., Dawson, E., Cremer, J., & Stelten, R. (2020). The Antillean manatee (Trichechus manatus manatus) in the southern Caribbean: A compilation and review of records for the Dutch Leeward islands and the central Venezuelan coast. Marine Mammal Science, 36(1), 324-333.	<a href="https://www.dcbd.nl/sites/default/files/documents/Manatee2019%2016538701.pdf">https://www.dcbd.nl/sites/default/files/documents/Manatee2019%2016538701.pdf</a>

Datas et_ID	Location	Year _reported	Type_of _reference	Comments	Reference	Link
35	Brazil	1534-1597	Historical mention	Description of how manatees were used for medicine and human food by Father José de Anchieta.	Anchieta, Capitania, 34.	<a href="https://doi.org/10.1177/0843871417713683">https://doi.org/10.1177/0843871417713683</a>
36	Brazil	1540-1580	Historical mention	Description by Gandavo	Gândavo, Tratado, 19.	<a href="https://doi.org/10.1177/0843871417713683">https://doi.org/10.1177/0843871417713683</a>
37	Caribbean	1540-1625	Historical mention	Description of West Indian manatee by Fernão Cardim.	Fernão Cardim, Tratados da terra e gente do Brasil, Itatiaia Editora da Universidade de São Paulo (Belo Horizonte, 1980 [1540?-1625]), 45.	<a href="https://doi.org/10.1177/0843871417713683">https://doi.org/10.1177/0843871417713683</a>
38	Brazil	1540-1625	Historical mention	Description of West Indian manatee by Fernão Cardim.	Cardim, Tratados, 45.	<a href="https://doi.org/10.1177/0843871417713683">https://doi.org/10.1177/0843871417713683</a>
39	Nicaragua and Honduras	1680-1701	Historical mention	Mention from English contemporary, William Dampier	Crawford S, Márquez-Pérez AI (2016) A contact zone: the turtle commons of the Western Caribbean. <i>Int J Mar Hist</i> 28(1):64–80.	<a href="https://doi.org/10.1177/0843871415624095">https://doi.org/10.1177/0843871415624095</a>
40	Belize	1910	Historical mention	Mention of a "shipping manatee".	Craig, A. K. (1966). The geography of fishing in British Honduras and adjacent coastal areas. Louisiana State University and Agricultural & Mechanical College.	<a href="https://search.proquest.com/openview/1c5dfc157180ba15c75caac08fc1da9d/1?pq-origsite=gscholar&amp;cbl=18750&amp;diss=y">https://search.proquest.com/openview/1c5dfc157180ba15c75caac08fc1da9d/1?pq-origsite=gscholar&amp;cbl=18750&amp;diss=y</a>
41	British Guyana	1935	Historical report	Report by Loven	Loven, S. (1935). Origins of the Tainan culture. <i>West Indies</i> , Göteborg, 562.	N/A
42	France	1828	Historical newsletter	Grenada Free Press and Weekly Gazette, 10 September 1828.	Harris, L. B. (2020). Maritime cultural encounters and consumerism of turtles and manatees: An environmental history of the Caribbean. <i>International Journal of Maritime History</i> , 32(4), 789-807	<a href="https://journals.sagepub.com/doi/abs/10.1177/0843871420973669">https://journals.sagepub.com/doi/abs/10.1177/0843871420973669</a>



Datas et_ID	Location	Year _reported	Type_of _reference	Comments	Reference	Link
43	France	1828	Historical newsletter	Manatees', Grenada Free Press and Weekly Gazette, 19 March 1828.	Harris, L. B. (2020). Maritime cultural encounters and consumerism of turtles and manatees: An environmental history of the Caribbean. <i>International Journal of Maritime History</i> , 32(4), 789-807	<a href="https://journals.sagepub.com/doi/abs/10.1177/0843871420973669">https://journals.sagepub.com/doi/abs/10.1177/0843871420973669</a>
44	Central America	1680-1701	Historical mention	Dampier, New Voyage, 37.	Harris, L. B. (2020). Maritime cultural encounters and consumerism of turtles and manatees: An environmental history of the Caribbean. <i>International Journal of Maritime History</i> , 32(4), 789-807	<a href="https://journals.sagepub.com/doi/abs/10.1177/0843871420973669">https://journals.sagepub.com/doi/abs/10.1177/0843871420973669</a>
45	Central America	1685	Historical mention	Elaboration by Exquemelin.	Harris, L. B. (2020). Maritime cultural encounters and consumerism of turtles and manatees: An environmental history of the Caribbean. <i>International Journal of Maritime History</i> , 32(4), 789-807	<a href="https://journals.sagepub.com/doi/abs/10.1177/0843871420973669">https://journals.sagepub.com/doi/abs/10.1177/0843871420973669</a>
46	Cul-de-sac, Island of St. Bartholomew	1722	Historical mention	Labat, 1722 pp. 200-203	Brito, C. (2019). People, manatees and the aquatic environment in early modern Americas: Confluence and divergence in the historical relationships between humans and animals. <i>Revista Brasileira de História</i> , 39, 162-184.	<a href="https://www.scielo.br/j/rbh/a/pNKxx7g5vqrsqfMRfyf57nr/?lang=en">https://www.scielo.br/j/rbh/a/pNKxx7g5vqrsqfMRfyf57nr/?lang=en</a>
47	Caribbean	1605	Historical mention	Inscribed by Gómara in the annals of the story of Matto and his "owner", the tribal chief Caramatexi, of the Taíno's tribe.	Brito, C. (2019). People, manatees and the aquatic environment in early modern Americas: Confluence and divergence in the historical relationships between humans and animals. <i>Revista Brasileira de História</i> , 39, 162-184.	<a href="https://www.scielo.br/j/rbh/a/pNKxx7g5vqrsqfMRfyf57nr/?lang=en">https://www.scielo.br/j/rbh/a/pNKxx7g5vqrsqfMRfyf57nr/?lang=en</a>

Dataset_ID	Location	Year_reported	Type_of_reference	Comments	Reference	Link
48	Mexico	1501-1600	Historical mention	Written by the Spaniard Francisco Hernández de Toledo in pivotal opus, Historia Natural de las Cosas de la Nueva España (Hernández 1959), 3rd volume, 5th section, chapter LI	Zangrando, A. F. J. (2014). Human predation on pinnipeds in the Beagle Channel.	<a href="https://notablesdelaciencia.conicet.gov.ar/handle/11336/151078">https://notablesdelaciencia.conicet.gov.ar/handle/11336/151078</a>
49	West Indies	N/A	Historical mention	Dampier, New Voyage, 33; Thomas William Francis Gann, Mystery Cities: Exploration and Adventure in Lubaantun; London, 1925	Harris, L. B. (2020). Maritime cultural encounters and consumerism of turtles and manatees: An environmental history of the Caribbean. International Journal of Maritime History, 32(4), 789-807.	N/A
50	N/A	1870	Literature	Some works have publicized errors, for example Jules Verne in his ' <i>Five weeks in a balloon</i> '.	Bertram, G. C. L., & Bertram, C. R. (1973). The modern Sirenia: their distribution and status. Biological Journal of the Linnean Society, 5(4), 297-338.	N/A
51	Colombian Caribbean ; Magdalena River	N/A	Literature	Mestizo people on the humanization of manatees. Some of these sailors even had intercourse with manatees because of their resemblance to women.	Fals Borda, 1979 in CARVAJAL, D. (2014). Human Use of Aquatic Mammals in Northern South America (Colombia and Panama): Some Evidence from Ethnographic and Ethnohistorical Records. Neotropical and Caribbean Aquatic Mammals: Perspectives from Archaeology and Conservation Biology, editado por Sebastián Muñoz, Christopher GÖTZ & Elizabeth RAMOS. Nueva York: NOVA Publishers, 107-134.	N/A

## 4.2 Historical Citations

Each of the following historical citations corresponds to the references in the preceding section; see for precise data information.

1 "On the 9th of January 1493 three mermaids emerged from the sea waters, not so kind as they were thought to be, but 'somehow they had a human face' ... They would often be seen by the Portuguese sailors, and Columbus himself pointed out the fact that he had already seen others in the coast of Guinea.": *"A 9 de Janeiro de 1493 surgiram das águas do mar três sereias, não tão gentis como se dizia, mas "que de alguma maneira tinham forma humana na cara". Foi uma lástima pois não puderam ser apresentadas ao almirante como um prodígio nunca antes visto. Era tão comum a sua aparição aos marinheiros portugueses, que o próprio Colombo teve que apontar que já havia visto outras na costa da Guiné. (...) Os monstros descritos pelo almirante distavam muito de ter um toque de distinção ou de novidade, porque estas e outras patranhas estavam na ordem do dia nas conversas dos marinheiros portugueses. Por outro lado, estas sereias não nos deleitam com o seu canto (...) Um exemplar foi enviado ao almirante pelo mercador inglês John Day nos finais de 1497"*

2 "Describes the use of remoras to catch manatees and turtles on the southern coast of Cuba in 1494; states that "swarms of manatee are attracted to quench their thirst" at freshwater springs in the Gulf of Cochinos, Cuba, visited in 1494; and mentions a manatee caught in 1502 at Azua, Dominican Republic, "which Ferdinand [Columbus] was clever enough to identify as a mammal, not a fish. The description of a "sea monster" seen near Hispaniola in 1494 may also refer to a manatee."

3 "There is a fish called monatim; it is big and has a cow's head and face and looks very much like it in the flesh. Its arms are close to its shoulders, which it uses to swim; it eats mostly herbs that spring across the water. It is rather tasty; it has some stones on its head that can be used to calm the pain from kidney stones, and the female has breasts with nipples to feed its children who are born alive.": *"No ano de 1497 [aliás 1498] tornou o rei D. Fernando a mandar às Antilhas Cristóvão Colombo com os seus navios (...) Há lá um peixe que se chama monatim; é grande e de coiro, tem a cabeça e rosto de vaca, e também na carne parece muito a ela. Tem uns braços junto dos ombros, com que nada; o mais do seu comer é erva, que nasce ao longo da água. É muito saboroso; tem umas pedras na cabeça que são proveitosas para a dor de pedra, e a fêmea tem tetas nos peitos com que cria os filhos que nascem vivos."*

4 "Fishes as men with beards, hair and arms."

5 "It should not be a question of doubt, just as there are several monstrous animals of different shapes on land, there are also several types of them in the sea, some of whom are men from the waist up, called tritans, other women, called mermaids, who are both covered of scales, as Plínio described them": *"Não deve ser questão de dúvida, tal como existem vários monstruosos animais de diversas formas na terra, também existem vários tipos deles no mar, alguns dos quais são homens da cintura para cima, chamados tritões, outros mulheres, chamadas sereias, que são ambos cobertos de escamas, como Plínio os descreveu"*

6 "In the islands of Barlavento, namely Spanish Cuba, Puerto Rico, Jamaica, there is the so-called manati, a strange kind of fish, if one can call fish an animal that has teats, and raises with milk the cubs born alive, and eats herb in the fields; but, indeed, usually lives in the water. Considering the mentioned reasons, they are eaten as fish, but when in the Holy Sunday, when I ate it in a Friday, I almost had scruples, because the colour and flavour seemed like nothing but veal chops or knuckle chops, the slices of this fish:

Is big as a cow.": *"Nas ilhas que chamam de Barlavento, que são Cuba, Espanhola, Porto Rico, Jamaica, há aquilo que chamam manatim, um estranho género de pescado, se se pode chamar pescado a um animal que pare os seus filhos vivos, e tem tetas, e com leite os cria, e alimenta-se de erva no campo; mas com efeito habita de ordinário a água, e por isso o comem por pescado, ainda que no Santo Domingo quando o comi numa sexta-feira, quase tinha escrúpulos, não tanto pelo feito, como porque na cor e sabor não parecia senão com talhadas de vitela, e em parte de pernil, as postas deste pescado: é grande como uma vaca"*

7 "A very different thing is the Manatee, that we call ox-fish; we saw in the City of Santo Domingo a mother and a calf alive; the calf could on its own feed a couple of hundred men and there would still be enough to invite a few others. (...) We stew this ox-fish with everything that we throw in a cow pot: and its meat is so similar, that we brought to our victualling some barrels of it salted, from Brazil, and we often ate it all the way to Puerto Rico.": *"Relação da Viagem e Sucesso que teve a Nao S. Francisco Em que hia o Capitão Vasco da Fonseca, Na Armada que foy para a India no Anno de 1596: Couza muy diferente he o Manatim, a que nós chamamos Peixe Boy; do qual vimos na Cidade de Santo Domingo huma mãe, e hum filho vivos; não tem mais semelhança de Boy, que huma pouca no focinho, tudo o mais he huma rudis indigestaque moles; podia o filho só dar de comer a hum par de centos de homens, e sobejar para convidar a outros poucos; e sem ser tamanho, ainda mamava, porque por não deixar a teta foy tomado tambem com a mãe: couza nova, e muito de notar em peixe estranho, e que eu nunca tinha lido nem ouvido de outro; porque duiante de nós estiveraõ ordenando, e tirando leite della, como se fora vaca: e muito mais nova, e maravilhosa ainda o lugar das tetas, que são os cotovelos dos braços, com singular advertencia da natureza, que não falta no necessario; porque pondo-lhas nos peitos puderaõ mal servir aos filhos nadando a mãe; e muito peor estando pastando, como ella costuma vir pastar junto à terra com os peitos sobre ella. Conseguinte couza ao leite deste peixe deve ser parir seos filhos já formados, que he tambem couza rara em peixes, e que eu não sabia mais do que dos Tubaroens, que nós por vezes vimos na Côsta de Guiné abrir, e lançar ao mar os filhos, que dentro tinhaõ, e elles hirem logo nadando do tamanho e feiçaõ de leitoens, que alguns tambem comiaõ, e tinhaõ por tenro manjar. Guiza-se este Peixe Boy com tudo o que se lança em huma panella de vaca: e he taõ semelhante sua carne, que com nós trazeremos para nossa matalotagem alguns barrís delle salgado do Brazil, e com o comeremos muitas vezes athè Porto-Rico ; toda-via dando-lho ahi fresco a dous Padres, que foraõ em Missaõ pela Ilha, lhe pareceo a hum dlees, que tinha obrigaçaõ, por ser sesta feira, de dar, como deo, huma fraterna correiaõ aos da caza, em que estavaõ agazalhados, por comerem carne em sesta feira, athè que o desenganaraõ do que era, e elle cahio em seo erro."*

8 "This morning one of our companie looking over the boord saw a Mermaid...from the Navill upward, her backe and breasts were like a woman's, her body as big as one of us; her skin very white; and long haire hanging down behind, of color black; in her going downe they saw her tayle, which was like the tayle of a porposse and speckled like a Macrell."

9 "... and in the sea and rivers there are infinite sorts and quantities of fishes, which are often taken by hand and strokes, and of ox-fishes, which meat is like the cow's, with the same colour, taste and smell, and they are so abundant in this place that, just from one river, the French took two hundred and fifty."

10 "Had round eyes, a finely shaped nose, well-formed ears, and long green hair. The creature was by no means unattractive."

11 "These manatees, which exist here in large scale, are food to the dwellers of Maranhão, due to their deficient supply of meat."

12 "... the fish they call ox are found in large-scale, they are larger than the ones they are named after, have a strange size and face; they gather them in those places, as in a vivarium, and there they easily kill them with barbs, because they are easily caught and found while swimming. These manatees are no different (food, whatsoever) from cow meat; they are very similar to meat and several people would eat them as such, and after telling them it was fish, they still would not believe."

13 "Any turtle catchers, also those who ship manatee or sea cow meat, ought to be charged no less than 5 to 6 pounds Flemish for a last of salt, as well as those who intend to ship it to N. Nederlandt or the Verginies, however..."

14 "The Ear of the Ox Fish has great virtues; the ones that we know and have experienced to this day are: it is very good to cure the Gallic colds; it heals all sorts of aches, especially those of the blood; it reliefs greatly the pains of the stone and the bladder; it takes away the sand of the kidneys (...): *"Ouvido do Peyxe Boy, & suas virtudes. O Ouvido do Peyxe Boy tem grandes virtues; as que atè este tempo sabemos, & de que se tem experiencia, são, que aproveyta muyto para curar os esquentamentos de qualidade gallica, cura as camaras de toda a sorte, principalmente as de sangue, dà grande alivio nas dores de pedra, & da bexiga, faz deytar as areas dos rins: applica-se moido em pò subtilissimo, em quantidade de vinte & quatro grãos, em agua cozida com raiz de Ononis, chamada Rilha Boy, ou Remora Aratri, ou com a virga aurea, que são muyto proprias para deytar a pedra, & area, tomada duas vezes cada dia. Se se der para ardores da ourina, ou queyxas dos rins, se darà em agua destillada da flor de favas; & se se der para os esquentamentos gallicos, se darà em agua destillada da flor de favas; & se se der para os esquentamentos gallicos, se darà em agua bem cozida com falta das hortas, continuando-se quinze, ou vinte dias em jejum."*

15 "Tooth of the virgin woman fish, and its virtues; it serves to staunch the blood flows from the mouth, placed on the chest, and to stem the lower flows, placed on the lower parts; it is useful if tied on the left arm, close to the flesh, in air, for accidents.": *"Dente de peyxe mulher virgem, & suas virtudes. Serve para estancar os fluxos de sangue da boca, posto sobre o peyto, & para estancar os fluxos bayxos, posta pela parte bayxa. Serve trazido atado no braço esquerdo, chegado à carne, cõtra o ar, accid~etes, & vágados."*

16 "Rib of the virgin woman fish, and its virtues; [if] prepared in water, and drunk, it cures fevers, and pleurisies pain, twinges and spasms, & Spores; we warn that, if she is not a virgin, it is useless": *"Costella de peyxe mulher virgem, & suas virtudes. Serve, preparada em agua, & bebida, para as febres, & para as dores de Pleurizes, pontadas, & esturpores; advertindo que não sendo virgem, não tem virtude."*

17 A Description of the manatí; or Sea Cow; a Sea Animal: - From which our new settlers at st. John's and st. Margaret's Islands; expect to derive considerable profit. - from the history of Kamtfchatka: Abstract: The Manati; or sea-cow; never comes out upon the shore; but always lives in the water; its skin is black and thick; like the bark of an old oak; and so hard that one can scarcely cut it with an ax; its head; in proportion to its body; is small and falls off from the neck to the snout; which is so much bent that the mouth seems to lie below; towards the end the snout is white and rough; with white; whiskers about nine inches long; it has no teeth; but only two flat white bones; one above; the other below; its nostrils are near the end of its; snout; in length and breadth about an inch and a half; they are double; and within are rough and hairy; its eyes are black; placed almost in the middle; and near in one line with the nostrils; they are no larger than sheep's eyes; which is certainly remarkable in such a monstrous creature; it has no eye-brows nor eyelashes; and its ears are only a small opening; its neck is not easily discovered; the head and body being so nearly joined; however; there are some

vertebrae proper for turning the head upon; which it actually does; particularly when it feeds; hanging its head like a cow; its.

18 "MAVALI. Remarkable fish from the Indies of Castella, which is twenty feet long, ten feet thick, and almost [almost] (?) shaped like an ox. Herrera says that a certain Indian had supported a man for six years in a lake, from which he would leave to go home and get food, and he was so domestic that he played with the boys, took what they gave him, carried ten men on his back without work, and was observed to be a friend of music.": *"MAVALI. Peixe notavel das Indias de Castella, o qual tem vinte pez de comprido, dez de grosso, e qua[se](?) da feição de boi. Herrera diz, que certo Indio sustentára hum pelo espaço de seis annos em huma lagoa, da qual sahia para ir a casa buscar de comer, e era tão domestico, que brincava com os rapazes, tomava o que lhe davão, levava ás costas dez homens sem trabalho, e observou-se ser amigo de musica."*

19 THE Manati, or sea cow, never comes out upon the shore, but always lives in the water; its skin is black and thick, like the bark of an old oak, and so hard that one can scarcely cut it with an ax; its head in proportion to its body is small, and falls off from the neck to the snout, which is so much bent that the mouth seems to lie below; towards the end the snout is white and rough, with white whiskers about nine inches long; it has no teeth, but only two flat white bones, one above, the other below; its nostrils are near the end of its snout, in length and breadth about an inch and a half; they are double, and within are rough and hairy; its eyes are black, placed almost in the middle, and near in one line with the nostrils, they are no larger than sheep's eyes, which is certainly remarkable in such a monstrous creature; it has no eye-brows nor eyelashes; and its ears are only a small opening; its neck is not easily discovered, the head and body being so nearly joined; however, there are some vertebrae: descriptions of hunting techniques and how the animal tastes.

20 "The Sea-Cow Stones. These are of the colour and consistence of ivory, of an irregular figure, of different sizes, and without taste or smell, formed in the head of the large amphibious animal called Manati essic...It is found in the American ocean, about Hispaniola, has two feet like hands (whence called by the Spaniards Manati) ...where are several wonderful things related concerning this biped. Some say it has two stones in its head; others say four; others, that these stones are the ossa petrosa. It has a head somewhat like a cow, and feeds a-shore on herbs. It is viviparous, the females suckling their two calves with their two dugs."

21 "SECT. II. They seem to be of the same nature with the unicorn; but are chiefly commended for the colic and gravel. They are prepatred by calcination and levigation, and given to?"

22 "say they are emetic, and the last gives them only to [grains?].... they are reckoned antispasmodic. I can say nothing of them, as I never heard of their being used."

23 "From the Sardines [a-Clupea sardina], the Woman Fish [b-Trichechus manatus], the Whale [c-Balena physalus], the Cachelote [d-Physeter Caetodoa, Santa Catarina Island, Bahia] fish oil is obtained, and of the latter the spermaceti. With this oil, the smell and smoke are greatly reduced by washing with water for some time in a machine, like that of the Count de la Graie. Fish glue is made from all the fish's air bladders by cleaning them, the method of which was described by Pallas in his travels. The extent to which Pearls are used in various luxury manufactures is well known. These are the first materials we have for a large number of Factories, some of which are established, and others may be established.": *"Das Sardinhas [a-Clupea sardina], do Peixe Mulher [b-Trichechus manatus], da Baleia [c-Balena physalus], do Cachelote [d-Physeter Caetodoa, Ilha de Santa Catarina, Bahia] se tira o azeite de peixe, e deste ultimo o espermacete. A este*

*azeite se diminui muito o cheiro, e fumo, lavando-se com água por algum tempo em uma máquina, como aquela do Conde de la Graie. De todas as bexigas aéreas dos peixes limpando-as se faz a cola do peixe, cujo método vem descrito por Pallas nas suas viagens. De quanto uso em várias manufaturas de luxo, servem as Pérolas é bem conhecido. Estas são as primeiras matérias, que temos para um grande número de Fábricas, parte das quais estão estabelecidas, e outras se poderão estabelecer."*

24 "Describes the near capsizing of a boat, supposedly by a manatee, and gives a tolerably accurate description and illustration of a manatee encountered in Surinam. Stedman also mentions "mermaids" described to him, which he takes to be fish, though his description of them better fits manatees. Also mentions the natives' fear of the "Watra Mama" but offers no identification of it.

25 Account of manatees and manatee hunting (with nets, guns, and harpoons) on Santo Domingo, where the manatees can be ambushed as they come out of the rivers at noon to graze in the fields of maize and sweet potatoes! The author notes with regret that, despite having followed these instructions several times, he never succeeded in shooting one.: *"Voyages d'un naturaliste, et ses observations faites sur les trois règnes de la nature, dans plusieurs ports de mer français, en Espagne, au continent de l'Amérique Septentrionale, à Saint Yago de Cuba, et à St.-Domingue, où l'auteur devenu le prisonnier de 40,000 noirs révoltés, et par suite mis en liberté par une colonne de l'armée française, donne des détails circonstanciés sur l'expédition du général Leclerc...."*

26 "CHAPTER XII. Amphibians (...) §.4. The Manatee is also called Peixe Boi do Pará, or Peixe Mulher d'Angola: its main characteristic is that it does not have incisors or canines, but only a row of molars similar to those of ruminants. Their chins are flat with their nostrils arranged above, their legs together form a single fin (§.1.): and their stomach is divided into several pockets. They only feed on vegetables that often come to graze on the beaches. The Torrid Zone Manatee appears to be a different species from the northern one: it is fuzzy, and has four toes with nails.": *"CAPITULO XII. Anfíbios (...) §.4. O Manatim é também denominado Peixe Boi do Pará, ou Peixe Mulher d'Angola: o seu principal característico consiste em não ter incisivos nem caninos, mas tão somente uma fileira de molares parecidos com os dos ruminantes. Os seus queixos são achatados om as ventas dispostas por cima, as pernas reunidas formam uma só barbatana (§.1.): e o estômago é repartido em vários bolsos. Nutrem-se somente de vegetais que, por frequentes vezes, vem pastar nas praias. O Manatim da Zona Tórrida parece ser uma espécie diferente da do norte: é felpudo, e tem quatro dedos com unhas."*

27 From Jlawshesbury River. - Young Hilly; Carbuss; corn and sawn timccr. Mermaid; Duors; maize.

28 "Observations of manatees in Jamaica and Haiti, with measurements, details of appearance, and past prices in Jamaican meat markets. Quotes Purchas on a tame manatee once kept by natives of Hispaniola."

29 [I]n British Guyana the water spirits may assume the form of a manatee...this may also have been the case among the Haitians, who with the True Arawaks of British Guyana shared the conception of a 'water mama'.

30 "The head of this fish is like that of a cow, and the eyes are similar, and there are thick.. in the place of arms, and the animal is very tame, and it is close to the surface of the water, and can be reached from there. .... We kill the beasts, and also many others and many fish, like the best, from a boat or canoe, because we walk on the surface of the water... and he is running away, and .....you are bathing the sea of blood, and he is

tired.... I pull the cordel.....and .....the waves of the water help .....And to move to the city .... you will need a cart and a pair of ....., and sometimes two pairs, depending on how big these fish are. Likewise, without having to get on land, we got into the canoe, because as it had just died, it was in the water: he thought that there were two of the best fish in the world in terms of flavor, and that it looked like meat; and in a certain way the sight was similar to a cow, ..... smelling a cut piece, will not know how to determine whether it is a cow or ....., and will certainly take it for meat, and will be deceived .....

And likewise the flavor is very excellent (...). These manatins have a certain stone or bone in their head, between the brains and its heart, which is very useful for varding off evil of the ilharga, after which it has burned very well, and that which is very cold takes when it sits down, (...) a drink of very good wine; ....; and as testimony from sight, I say that I saw many people search for this stone with great diligence for the purpose that I say": *"E a cabeça deste pescado é como de uma vaca, e os olhos por semelhante, e tem uns tocos grossos no lugar de braços, com que nada, e é animal muito manso, e sai até à orelha da água, e se desde puder alcançar algumas ervas que estejam na costa em terra, pasta-as; matam-nos os besteiros, e assim mesmo a outros muitos e muito bem pescados, com a besta, desde uma barca ou canoa, porque andam à superfície da água; e como o vêm, arpoam-no, e o tiro do arpão com que lhe dão, leva uma corda delgada ou fio muito subtil, alcatroado; e vai fugindo, e tanto o besteiro dá cordel, e deixa muitas braças dele fora, e no fim do fio um pau, e andou banhando o mar de sangue, e está cansado, e perto do fim da vida, chega-se o mesmo à praia ou costa, e o besteiro vai colhendo a sua corda, e são sete ou oito braças, ou pouco mais ou menos, tiro do cordel até terra, e o manatim chega-se tanto que toca em terra, e as ondas da água ajudam a encalhar-se mais, então o dito besteiro e os que o ajudam acabam de o matar em terra; e para o levar para a cidade ou aonde o hão-de pesar, é necessária uma carreta e um par de bois, e as vezes dois pares, segundo são grandes estes pescados. Assim mesmo, sem que se chegue a terra, metem-no na canoa, porque como acaba de morrer, sobe sobre a água: creio que um dos melhores pescados do mundo em sabor, e o que mais parece carne; e de certa maneira à vista é parecido com uma vaca, que quem não o tiver visto inteiro, olhando uma peça dele cortada, não saberá determinar se é vaca ou vitela, e de certo o tomarão por carne, e se enganarão nisto todos os homens do mundo; e assim mesmo o sabor é de muito excelente vitela propriamente (...). Estes manatins têm uma certa pedra ou osso na cabeça, entre os cérebros ou miolo, a qual é muito útil para o mal da ilharga depois de tê-la queimado muito bem, e aquele pó moído toma-se quando se sente a dor, pela manhã em jejum, (...) num trago de muito bom vinho branco; e bebendo-o assim três ou quatro manhãs, tira-se a dor, segundo alguns que o provaram me disseram; e como testemunha de vista, digo que vi buscar esta pedra com grande diligência a muitos para o efeito que digo"*

31 "The manatee is a fish of the sea, a big one, and is far larger than a shark in greatness and length, and is very ugly (...).": *"Em Terra Firme os pescados que há, e que eu vi, são muitos e muito diferentes; e como de todos não será possível falar aqui, falarei de alguns (...) no mar tomam-se alguns (...) tartarugas grandes, e tubarões muito grandes e manatins (...) e são de tanta diversidade e quantidade que não poderia aqui expressar-me sobre todos sem muito escrever; só falarei aqui, e direi algo mais alongado, no que diz respeito a três pescados que são; tarataruga, tubarão e o manatim. (...) O manatim é um pescado do mar, dos grandes, e muito maior que um tubarão em grandeza e de comprimento, e muito feio"*

32 "With such news, amazed, we jumped into the boats from where the fishermen removed the fish and placed them on the beach; When I saw their shape and contemplated their likeness, I could not help being astonished at the sight of them and could not take my eyes away from them. I contemplated the admirable likeness of the fish in such a way that it was almost only believable to those who saw it. by a Christian



philosophy, seeing the admirable form of the fish, the work of God, author of all things, to whom everything is easy and nothing is impossible, I thought of examining each member in particular and seeing the value of each one, so that by making an anatomical examination of each of them, came to know more clearly the maximum similarity of the entire body they had with the external parts of man. (...) the chest had the same shape as in man, the very light skin full of very fine veins spread across the surface, on which two large breasts appeared, one on each side, not even missing the small and elegant nipples that are on the females, somewhat more prominent than on males' chests; However, they did not extend downwards, but remained elevated like virginal breasts, with a proportionate roundness and when squeezing them with your own hand, a lot of milk came out, of great whiteness, not without the admiration of those present. (...) Full of admiration, almost ecstatic, he looked very attentively at all the members of the male generation and in their entire composition they were very similar to those of men. The females' limbs were so similar and proportionate to those of women that it undoubtedly aroused the admiration of the women themselves. However, what most increased the monster's admiration was the internal similarity of the limbs. I looked carefully in fact through the cut made with a sharp instrument that was made at my request, I diligently examined all the internal parts, in everything the same thing as in women; the uterus, as if hidden within the body, as well as the parts adjacent to it, were in no way distinguished from the womb and seed of women; finally, in the movements of the two sexes, the kinship with the man was such that no difference was noticed at all. The rest of the external part of the body had nothing similar to man. In both males and females, it ended in a kind of two tails, which the sea poets of Sicily already spoke of.": *"Com tal novidade, admirados, saltamos para os botes donde os pescadores retiravam os peixes e colocavam na praia; ao ver a sua forma e ao contemplar a sua semelhança não deixei de ficar estupefacto perante a contemplação dos mesmos e não podia afastar os olhos deles. Contemplava a admirável semelhança do peixe de tal modo que quase só era acreditável a quem a visse. Todavia ajudado por um filosofia cristã, vendo a forma admirável dos peixes, obra de Deus autor de todas as coisas a quem tudo é fácil e nada é impossível, pensei em examinar cada membro em particular e ver o valor de cada um, de maneira que feito um exame anatómico a cada um deles, chegasse a conhecer com mais clareza a máxima semelhança de todo o corpo que tinham com as partes externas do homem. (...) o peito tinha a mesma forma que no homem, a pele muito clara cheia de veias muito finas espalhadas à superfície, no qual apareciam dois largos seios, um de cada lado, não lhes faltando sequer os pequenos e elegantes bicos que há nas mulheres, um pouco mais proeminentes do que nos peitos dos machos; não se alongavam todavia para baixo, mas sim conservavam-se elevados como peitos virginais, duma rotundidade proporcionada e ao apertá-los com a própria mão saía bastante leite, duma grande alvura, não sem a admiração dos presentes. (...) Cheio de admiração, quase extasiado, contemplava com bastante atenção todos os membros da geração dos machos e em toda a sua composição muito semelhantes aos dos homens. Nos membros das fêmeas era tanta a semelhança e proporção com os das mulheres que sem dúvida despertava a admiração das próprias mulheres. Todavia aquilo que mais aumentava a admiração do monstro era a semelhança interna dos membros. Vi com atenção na verdade através do corte feito com instrumento cortante que a meu pedido foi feito, examinei diligentemente todas as partes internas, em tudo a mesma coisa que nas mulheres; o útero como que oculto dentro do corpo assim como as partes a ele adjacentes em nada se distinguia da madre e da sementeira das mulheres, finalmente nos movimentos dos dois sexos era tal o parentesco com o homem, que em nada se notava qualquer diferença. O resto da parte externa do corpo nada tinha de semelhante com o homem. Tanto nos machos como nas fêmeas, terminava em uma espécie de duas caudas, de que já falavam os poetas do mar da Sicília"*

33 "There are some large and exquisitely shaped fish, called manatees, whose demonstration Valdés puts in his story, larger than mako sharks and very monstrous, they have a head like a large, larger ox and very small eyes and they have leather and no scales, it is very advanced fish that looks like meat very similar to beef or veal; The leather is so thick that they make soles and shoes from it; The tail, by cooking or grinding it, extracts a lot of butter from it to eat and burn and even for medicines; raise children with breasts in their arms, like sea lions.": *"Hay unos peces grandes y de exquisita forma, llamados manatí, cuya demostración pone Valdés en su historia, mayores que marrajos y muy monstruosos, tienen la cabeza como un gran buey y mayor y los ojos muy pequeños y tienen cuero y no escamas, es muy aventejado pescado que parece carne muy semejante a la de vaca o ternera; el cuero es tan grueso que hacen suelas y zapatos de él; la cola, cociéndola o triéndola, se exprime de ella mucha manteca para comer e quemar y aun para medicinas; cría hijos con tetas entre los brazos, como los lobos marinos. Estos pescan con otros peces llamados reversos, los cuales acostumbraban los indios a criar desde pequeños en agua salada y después ataban con una cuerda y lo soltaban para que fuese como halcón a asir el pez grande como tortugas y tiburones y él se les aferra por debajo, porque tiene en lugar de escamas muchas púas como erizo, y así anda fatigándolo al amor del agua hasta que viene a la orilla, donde el pescador lo toma."*

34 "The trade of rotten manatee skins and meat likely originated from the Orinoco and other tribes."

35 "In the torrent rivers that run into the sea there are sea cows that weight between 20 and 30 arrobas. Inside their brains there is a remedial stone for the ones who have kidney stones, and their meat is valuable, it goes well with collard and tastes like cow meat; if spiced, it tastes like mutton and also like pork and is easily slaughtered."

36 "There they breed [In the Captainship of Ilheos] several manatees whose snout is like an ox and whose two knuckles they use to swim, they do not have scales or resemblance to a fish, but in the tail. Killed with harpoons, they are so fat and big, that some even weight thirty or forty arrobas. It is a very flavourful fish that almost tastes like pork or deer. We may cook it with kale and stew it like meat; nobody would consider it a fish, unless knowing it beforehand. The females have two breasts where the calves suckle to survive and they are fed milk (a thing that no other fish can do). They exist in some bays and rivers of this coast and reared in the sea, but they drink fresh water and for this reason several come to this lagoon, or somewhere where a stream drowns into the sea."

37 "... with its round hands like shovels and on them has five fingers attached with each other and each has nails, as humans ... "

38 "This fish has features like land animals, especially the ox ... on the nostrils it has two 'courinhos' with which it closes them, and snorts by them; and may not be long under water without snorting; ... under these arms the females have two breasts with which they feed their offspring, and they do not have more than one."

39 "They are esteemed by all Privateers; for one or two of them in a Ship, will maintain 100 men: So that when we careen our Ships, we choose commonly Places where there is plenty of Turtle or Manatee for the Moskito men to strike."

40 The intrepid C. Melhado is reputed to have used (ca. 1910) a shipping turtle tank to send from Belize what must surely have been the first manatee to arrive at the London zoo. The animal is reported by his son to have weighed 160 pounds and was brought up

from the Mosquito Coast by paddlers who fed the beast two cans of condensed milk during each day of the trip.

41 "[I]n British Guyana the water spirits may assume the form of a manatee...This may also have been the case among the Haitians, who with the True Arawaks of British Guyana shared the conception of a 'water mama' ".

42 "Tastes very much like the best young beef. It would be worthwhile to rear flocks of these animals within closed inlets of the sea."

43 "This being a most excellent food. Person subject to being afflicted by scorbutic or scrofulous complaints find speedy relief; by using it freely their blood is said to become purified and the virulence of the complaint is thrown to the surface of the body, and quickly disappears. . ."

44 Englishmen expressed surprise when witnessing Miskito skill in both making and using harpoons. Innovatively, without an anvil and forge in the English tradition, they sawed up the barrel of a gun making "harpoons, lances, hooks and a long knife, heating the pieces first in the fire, which he struck with his gunflint". They elaborated on the techniques used for manatee and turtle hunting: "The manner of striking manatee and tortoise is much the same; only when they seek for manatee they paddle so gently that they make no noise, and never touch the side of their canoe with their paddle, because it is a creature that hears very well".

45 "Through the frequent Converse and Familiarity with these Indians have with the Pirats, they sometimes go to sea with them, and remain among them for whole years, without returning home. From whence it cometh, that many of them speak English and French, and some of the Pirats their Indian language. They are very dexterous at darting with the Javelin, whereby they are very useful to the Pirats, towards the victualling of their ships, by the fishery of Tortoises, and Manitas [manatees] . . . For of those Indians is alone sufficient to victual a vessel of 100 persons."

46 "I got there in time to see a female Lamentin, which these blacks had harpooned, being thrown to the shore. I had heard many things about the manatee, but had never seen any, as it became quite rare since the beach is inhabited. This fish searches for places with rivers because it comes to drink fresh water once or twice each day, after having eaten a certain herb that grows in the bottom of the sea [...] The Spaniards call it Manate or Manati, that is to say, a fish that has hands, while we call it Lamentin. We could, it seems to me, call it sea cow [...] Our buccaneers often have no other recourse to live on than fishing manatees, which assures me that neither they nor the Indians (of l'Ithme de Darien), which are the best fishermen in the world, have seen the manatee on land. [...] It was considered that this manatee weighed eight hundred pounds. I did not weigh it, but I think it is likely to be true. The fishermen had also taken its little one that was about a meter long; we had it for dinner."

47 "The manatee is a fish, which is not from our sea, but grows in the sea and rivers. [...] It is only captured, however, in the riverbanks or in the middle of the herbs: it is also caught with nets when small. Chief Caramatexi once captured a very small one and raised him for twenty-six years in a lake called Guainabo, where he lived. This animal grew so sweet and friendly that we could take it for one of the dolphins the Ancients talked about. He came to the [lake] shore when people called it by the name Matto, which means in the Indian language Grand [or Noble]. He came out of the water to eat at home, stood by the shore with his young, and seemed to enjoy when it heard someone singing, let them climb [on his back] and carried people across the lake without letting them fall into the water. It was a great pastime for the Indians. A travelling Spaniard, wanting to

know if its skin was as hard as it was said, called Matto, Matto and, when it approached, hit it, which did not feel good, even though it did not wound it, and that is why it did not come out of the water when he saw men bearded and clothed like the Christians, we could call it but it was in vain."

48 "Of the SEA COW. In one and another ocean and in the lakes, there lives a fish called by the Haitians 'manatí', it is an almost formless beast similar to a calf, with its head and front arms enlarged like a goat; it is of dun color, is covered with thin hair, and though it is fierce it does not bite. It lives both in the sea and near the beach (and still sometimes it moves away from shore), and feeds of the coastal grasses and of a certain kind of marine fig. It has a rounded tail placed transversely, the head and snout are like a calf, with big nostrils, breasts, ears and small eyes, small teeth also, rough lips, and the skin thicker and stronger than that of a bull. It has two arms at its front part, each one with five nails similar to the humans (...). The navel and the anus are wide, the vulva is like that of woman and the penis as that of a horse. Its fat and meat are like pork, and it is of agreeable taste, whether eaten fresh or salty, harmful (...) for those who suffer from gallstone. The ribs and the entrails are like of a bull but monstrous in size. (...) They procreate a single fetus, since it is very big (...). In the head of this animal there is a little rock, which, triturated and mixed with water or another appetitive drink, expels the retained urine and still everything else that obstructs its conduits. The little rock that is situated in the macho is white and to be used by the men; that of the female is slightly yellowish and useful to the women"

49 There is a description of how quartermasters of vessels could flog their Miskito crew "with a strap made from the hide of a manatee". Newspapers also describe an incident in West Indies where an Indian woman had "a cruel punishment inflicted on her with those straps of manatee leather, which serve for whips".

50 "Cascades and watercourses poured to the northward down the wooded slopes, and here hippopotamus splashed noisily, and manatees twelve feet long displayed their fish-like bodies on the banks, exposing their round udders, swollen with milk." (Chapter 29) "Meanwhile wild boars, buffaloes and ajoubs, a rather dangerous kind of sea-cow, plunged about in the bushes and beneath the waters of the lake, their fierce cries making the night hideous." (Chapter 35)

51 "We would disembark with our mat and canopy and lay down to rest not far from a fire we lit to ward off mosquitoes and tigers. Some of our companions would bury themselves in the sand to sleep better. Others would sneak away in search of a large manatee to copulate with, because, as you know, that animal has a vagina and breasts, and it leaves the river every month to spend three days menstruating.": *"Desembarcábamos con nuestra estera y el toldo y nos acostábamos a descansar no lejos de una hoguera que prendamos para alejar los mosquitos y los tigres. Algunos compañeros se enterraban en la arena para dormir mejor. Otros se alejaban a escondidas en búsqueda de alguna manat grande para culear con ella, porque, como tú sabes, ese animal tiene chucha y tetas, y se sale del río cada mes para pasar tres días de regla."*

Appendix V  
Trade Records

## 5.1 Trade Records – Data

a. 1 arroba = 15 kg

b. 1 potes = 25 kg

c. 1 latas = 22 kg

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
1	Trichechus manatus/Trichechus inunguis	Cabo do Norte	Dutch	1659-60	> 20 Dutch ships pr. year	N/A	manatee meat; fat to make oil for lighting and butter	N/A	"Each year, more than 20 Dutch ships were loaded with manatee meat obtained from the Nheengaiba Indians near Cabo do Norte."	Antonio Vieira, in Vieira, 1735	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associacao Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress.
2	Trichechus manatus/Trichechus inunguis	Amazon; Gurupá	Cayenne	1660	N/A	N/A	salted manatee meat	N/A	"the Manati's flesh used at Cayenne is brought ready salted from the river of the Amazons', where it was obtained from the Indians, and sold at Cayenne 'commonly at three pence a pound".	Barbot, 1746	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associacao Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress.

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
3	Trichechus manatus/Trichechus inunguis	Santarém	N/A	1843	75 arrobas	1125	manatee meat	28	"Hernadon (1853) provides tables of the cargoes of vessels arriving in Santarém from upriver in 3 months of 1843 and 3 months of 1846".	Hernadon, 1853.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associação Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress.
4	Trichechus manatus/Trichechus inunguis	Santarém	N/A	1843	170 potes	4250	mixira (fried meat preserved in its own fat)	56	"Hernadon (1853) provides tables of the cargoes of vessels arriving in Santarém from upriver in 3 months of 1843 and 3 months of 1846".	Hernadon, 1853.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associação Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress.
5	Trichechus manatus/Trichechus inunguis	Santarém	N/A	1846	316 potes	7900	mixira (fried meat preserved in its own fat)	104	"Hernadon (1853) provides tables of the cargoes of vessels arriving in Santarém from upriver in 3 months of 1843 and 3 months of 1846".	Hernadon, 1853.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associação Commercial do Amazonas at the Association's headquarters in Manaus; the

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manti	Comment	Noted_by	Reference
											holdings of the US Library of Congress.
6	Trichechus manatus/Trichechus inunguis	N/A	Manaus or Belém	1853	887 potes	22 175	mixira (fried meat preserved in its own fat)	292	"Mixira brought to Manaus, 1853-1951."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associacao Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress.
7	Trichechus manatus/Trichechus inunguis	N/A	Manaus	1853	437 arrobas	6 555	manatee meat	164	"Manatee meat brought to Manaus, 1853-1904."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
8	Trichechus manatus/Trichechus inunguis	Manaus; Villa Bella; Serpa; Peru	Manaus or Belém	1855	615 potes	15 375	mixira (fried meat preserved in its own fat)	202	"Mixira brought to Manaus, 1853-1951."	Vieira, 1856; Amaral, 1858.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associacao Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress.



Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
9	Trichechus manatus/Trichechus inunguis	Amazonas	Pará	1855	534 potes	13 350	mixira (fried meat preserved in its own fat)	176	"Mixira exported from Amazonas, 1855-1948."	Vieira, 1856.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
10	Trichechus manatus/Trichechus inunguis	Manaus area	Manaus	1855	260 arrobas	3 900	manatee meat	98	"Manatee meat brought to Manaus, 1853-1904."	Vieira, 1856; Amaral, 1858.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
11	Trichechus manatus/Trichechus inunguis	Manaus	Para	1855	211 arrobas	3165	manatee meat	79	"Exports of manatee meat from Amazonas, 1855-1973."	Vieira, 1856.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
12	Trichechus manatus/Trichechus inunguis	Manaus; Para; Silves; Tefe; Villa Bella; Serpa; Canumã; Alvellos; Peru	Manaus or Belém	1856	795 potes	19 875	mixira (fried meat preserved in its own fat)	262	"Mixira brought to Manaus, 1853-1951."	Amaral, 1858.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associação Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress.

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
13	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1856	699 potes	17 475	mixira (fried meat preserved in its own fat)	230	"Mixira exported from Amazonas, 1855-1948."	Amaral, 1858.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
14	Trichechus manatus/Trichechus inunguis	Manaus area; Pará; Alvellos	Manaus	1856	416 arrobas	6 240	manatee meat	156	"Manatee meat brought to Manaus, 1853-1904."	Amaral, 1858.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
15	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1856	475 arrobas	7125	manatee meat	178	"Exports of manatee meat from Amazonas, 1855-1973."	Amaral, 1858.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
16	Trichechus manatus/Trichechus inunguis	N/A	Manaus or Belém	1859	163 potes	4 075	mixira (fried meat preserved in its own fat)	54	"Mixira brought to Manaus, 1853-1951."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associacao Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress.

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
17	Trichechus manatus/Trichechus inunguis	N/A	Manaus	1859	37 arrobas	555	manatee meat	14	"Manatee meat brought to Manaus, 1853-1904."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
18	Trichechus manatus/Trichechus inunguis	N/A	Manaus or Belém	1860	2963 potes	74 075	mixira (fried meat preserved in its own fat)	975	"Mixira brought to Manaus, 1853-1951."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associacao Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress.
19	Trichechus manatus/Trichechus inunguis	N/A	Manaus	1860	6127 arrobas	91 905	manatee meat	2298	"Manatee meat brought to Manaus, 1853-1904."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
20	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1861	23 potes	575	mixira (fried meat preserved in its own fat)	8	"Mixira exported from Amazonas, 1855-1948."	Brusque, 1862.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
21	Trichechus manatus/Trichechus inunguis	Amazonas; Obidos	Belém	1861	26 potes	650	mixira (fried meat preserved in its own fat)	9	"Mixira brought to Belém, 1855-1915."	Brusque, 1862.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
22	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1865	536 potes	13 400	mixira (fried meat preserved in its own fat)	179	"Mixira exported from Amazonas, 1855-1948."	Bastos, 1866.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
23	Trichechus manatus/Trichechus inunguis	Amazonas and Para	Belém	1884	N/A	48 969	mixira (fried meat preserved in its own fat)	644	"Mixira brought to Belém, 1855-1915."	Pará, 1886.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
24	Trichechus manatus/Trichechus inunguis	Amazonas and Para	Belém	1885	N/A	23 843	mixira (fried meat preserved in its own fat)	314	"Mixira brought to Belém, 1855-1915."	Pará, 1886; Verissimo, 1895; Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
25	Trichechus manatus/Trichechus inunguis	Amazonas and Para	Belém	1886	N/A	34 351	mixira (fried meat preserved in its own fat)	452	"Mixira brought to Belém, 1855-1915."	Pará, 1886; Verissimo, 1895; Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
26	Trichechus manatus/Trichechus inunguis	Amazonas and Para	Belém	1887	N/A	24 810	mixira (fried meat preserved in its own fat)	326	"Mixira brought to Belém, 1855-1915."	Verissimo, 1895; Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
27	Trichechus manatus/Trichechus inunguis	Amazonas and Para	Belém	1888	N/A	43 620	mixira (fried meat preserved in its own fat)	574	"Mixira brought to Belém, 1855-1915."	Verissimo, 1895; Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
28	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1889	559 latas	12 298	mixira (fried meat preserved in its own fat)	162	"Mixira exported from Amazonas, 1855-1948."	Verissimo, 1895; Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
29	Trichechus manatus/Trichechus inunguis	Amazonas and Para	Belém	1889	N/A	19 058	mixira (fried meat preserved in its own fat)	251	"Mixira brought to Belém, 1855-1915."	Verissimo, 1895; Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
30	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1890	367 latas	8 074	mixira (fried meat preserved in its own fat)	106	"Mixira exported from Amazonas, 1855-1948."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
31	Trichechus manatus/Trichechus inunguis	Amazonas and Para	Belém	1890	N/A	7557	mixira (fried meat preserved in its own fat)	99	"Mixira brought to Belém, 1855-1915."	Verissimo, 1895; Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
32	Trichechus manatus/Trichechus inunguis	Amazonas	Para	1890	N/A	50	manatee meat	1	"Exports of manatee meat from Amazonas, 1855-1973."	Verissimo, 1895.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
33	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1891	428 latas	9 416	mixira (fried meat preserved in its own fat)	124	"Mixira exported from Amazonas, 1855-1948."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
34	Trichechus manatus/Trichechus inunguis	Amazonas and Para	Belém	1891	N/A	14 378	mixira (fried meat preserved in its own fat)	189	"Mixira brought to Belém, 1855-1915."	Verissimo, 1895; Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
35	Trichechus manatus/Trichechus inunguis	Amazonas	Para	1892	N/A	118	manatee meat	3	"Exports of manatee meat from Amazonas, 1855-1973."	Verissimo, 1895.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
36	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1893	818 latas	17 996	mixira (fried meat preserved in its own fat)	237	"Mixira exported from Amazonas, 1855-1948."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
37	Trichechus manatus/Trichechus inunguis	Amazonas and Para	Belém	1893	N/A	19 495	mixira (fried meat preserved in its own fat)	257	"Mixira brought to Belém, 1855-1915."	Verissimo, 1895; Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
38	Trichechus manatus/Trichechus inunguis	Amazonas and Para	Belém	1894	N/A	14 140	mixira (fried meat preserved in its own fat)	186	"Mixira brought to Belém, 1855-1915."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
39	Trichechus manatus/Trichechus inunguis	Amazonas and Para	Belém	1895	N/A	15 464	mixira (fried meat preserved in its own fat)	203	"Mixira brought to Belém, 1855-1915."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
40	Trichechus manatus/Trichechus inunguis	Amazonas and Para	Belém	1896	N/A	9 580	mixira (fried meat preserved in its own fat)	126	"Mixira brought to Belém, 1855-1915."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R



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41	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1897	N/A	9559	mixira (fried meat preserved in its own fat)	126	"Mixira exported from Amazonas, 1855-1948."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
42	Trichechus manatus/Trichechus inunguis	Amazonas and Para	Belém	1897	N/A	11 809	mixira (fried meat preserved in its own fat)	155	"Mixira brought to Belém, 1855-1915."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
43	Trichechus manatus/Trichechus inunguis	Amazonas and Para	Belém	1898	N/A	3 540	mixira (fried meat preserved in its own fat)	47	"Mixira brought to Belém, 1855-1915."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
44	Trichechus manatus/Trichechus inunguis	N/A	Manaus or Belém	1901	505.5 latas	11 121	mixira (fried meat preserved in its own fat)	146	"Mixira brought to Manaus, 1853-1951."	Goncalves, 1904; ACA, 1903.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associacao Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress.

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45	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1901	251 latas	5 522	mixira (fried meat preserved in its own fat)	73	"Mixira exported from Amazonas, 1855-1948."	ACA, 1903; Goncalves, 1904; Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
46	Trichechus manatus/Trichechus inunguis	R. Puros; R. Javary; R. Solimoes; R. Ica	Manaus or Belém	1902	374.5 latas	8239	mixira (fried meat preserved in its own fat)	108	"Mixira brought to Manaus, 1853-1951."	Goncalves, 1904; ACA, 1903, 1904.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
47	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1902	46 latas	1 012	mixira (fried meat preserved in its own fat)	13	"Mixira exported from Amazonas, 1855-1948."	ACA, 1903, 1904; Goncalves, 1904; Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
48	Trichechus manatus/Trichechus inunguis	R. Solimoes; R. Javary; R. Japura	Manaus or Belém	1903	157 latas	3454	mixira (fried meat preserved in its own fat)	45	"Mixira brought to Manaus, 1853-1951."	ACA, 1904.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

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49	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1903	51 latas	1 122	mixira (fried meat preserved in its own fat)	15	"Mixira exported from Amazonas, 1855-1948."	ACA, 1904; Goncalves, 1904.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
50	Trichechus manatus/Trichechus inunguis	Manaus; Itacoatiara	Belém	1903	53 latas	1 166	mixira (fried meat preserved in its own fat)	15	"Mixira brought to Belém, 1855-1915."	ACA, 1904; Goncalves, 1904.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
51	Trichechus manatus/Trichechus inunguis	Manaus	Belém	1903	N/A	253	manatee meat	6	"Exports of manatee meat from Amazonas, 1855-1973."	Goncalves, 1904.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
52	Trichechus manatus/Trichechus inunguis	R.Solimoes; R. Purus; Manaus.	Manaus; Belém	1903	N/A	907	manatee lard	12	"Commerce in manatee lard in Brazil."	ACA, 1904.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

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53	Trichechus manatus/Trichechus inunguis	R. Solimoes ; R. Javary; R. Purus; R. Jutahy	Manaus or Belém	1904	255 latas	5610	mixira (fried meat preserved in its own fat)	74	"Mixira brought to Manaus, 1853-1951."	ACA, 1905.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
54	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1904	186.5 or 206.5 latas	4103 or 4543	mixira (fried meat preserved in its own fat)	60	"Mixira exported from Amazonas, 1855-1948."	ACA, 1905.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
55	Trichechus manatus/Trichechus inunguis	Rio Purus	Manaus	1904	N/A	70	manatee meat	2	"Manatee meat brought to Manaus, 1853-1904."	ACA, 1905.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
56	Trichechus manatus/Trichechus inunguis	R. Solimoes	Manaus	1904	N/A	44	manatee lard	0.5	"Commerce in manatee lard in Brazil."	ACA, 1905.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

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57	Trichechus manatus/Trichechus inunguis	R. Solimoes ; R. Javary; R. Purus; R. Jutahy	Manaus or Belém	1909	670 latas	14 740	mixira (fried meat preserved in its own fat)	187	"Mixira brought to Manaus, 1853-1951."	Netto, 1911.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
58	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1909	37 latas	814	mixira (fried meat preserved in its own fat)	11	"Mixira exported from Amazonas, 1855-1948."	Netto, 1911; Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
59	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1910	100 latas	2 200	mixira (fried meat preserved in its own fat)	29	"Mixira exported from Amazonas, 1855-1948."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
60	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1911	7 latas	154	mixira (fried meat preserved in its own fat)	2	"Mixira exported from Amazonas, 1855-1948."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

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61	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1912	38 latas	836	mixira (fried meat preserved in its own fat)	11	"Mixira exported from Amazonas, 1855-1948."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
62	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1913	17 latas	374	mixira (fried meat preserved in its own fat)	5	"Mixira exported from Amazonas, 1855-1948."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
63	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1914	30.5 latas	671	mixira (fried meat preserved in its own fat)	9	"Mixira exported from Amazonas, 1855-1948."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
64	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1915	159 latas	3 498	mixira (fried meat preserved in its own fat)	46	"Mixira exported from Amazonas, 1855-1948."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

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65	Trichechus manatus/Trichechus inunguis	Boa Vista do Rio Branco; Coary; Carauary; Maues	Manaus or Belém	1935	N/A	2743	mixira (fried meat preserved in its own fat)	36	"Mixira brought to Manaus, 1853-1951."	Maia, 1936.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
66	Trichechus manatus/Trichechus inunguis	Codajas; Fonte Boa	Manaus	1935	N/A	785	manatee lard	10	"Commerce in manatee lard in Brazil."	Maia, 1936.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
67	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1935	N/A	109.962	manatee hide	5	"Other manatee hides exported, destinations not specified."	Maia, 1936.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
68	Trichechus manatus/Trichechus inunguis	Manaus	N/A	1937	N/A	91 156	manatee hide	4558	"Manatee hides exported from Manaus, 1937-54."	Revista Commercial do Pará 25(42), 1938.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

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69	Trichechus manatus/Trichechus inunguis	Amazonas	Acre	1938	N/A	263	mixira (fried meat preserved in its own fat)	3	"Mixira exported from Amazonas, 1855-1948."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
70	Trichechus manatus/Trichechus inunguis	Manaus	Rio de Janeiro; Santos; Pernambuco; Para; Portugal	1938	N/A	112 941	manatee hide	5647	"Manatee hides exported from Manaus, 1937-54."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
71	Trichechus manatus/Trichechus inunguis	Amazonas	Acre	1939	N/A	324	mixira (fried meat preserved in its own fat)	4	"Mixira exported from Amazonas, 1855-1948."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
72	Trichechus manatus/Trichechus inunguis	Manaus	Rio de Janeiro; Santos; Sao Paulo; Pernambuco; Para; Portugal	1939	N/A	75 882	manatee hide	3794	"Manatee hides exported from Manaus, 1937-54."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R



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73	Trichechus manatus/Trichechus inunguis	Belém	N/A	1939	N/A	2 218	manatee hide	111	"Other manatee hides exported, destinations not specified."	Anon, 1941	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
74	Trichechus manatus/Trichechus inunguis	Amazonas	Acre; Mato Grosso; Colombia	1940	N/A	720	mixira (fried meat preserved in its own fat)	9	"Mixira exported from Amazonas, 1855-1948."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
75	Trichechus manatus/Trichechus inunguis	Manaus	Rio de Janeiro; Santos; Sao Paulo; Antonina; Para; Portugal; Lisbon	1940	N/A	131 912	manatee hide	6596	"Manatee hides exported from Manaus, 1937-54."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
76	Trichechus manatus/Trichechus inunguis	Belém	N/A	1940	N/A	1 467	manatee hide	73	"Other manatee hides exported, destinations not specified."	Anon, 1941	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

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77	Trichechus manatus/Trichechus inunguis	Manaus	Rio de Janeiro; Santa Catarina ; Antonina ; Belém; New York	1941	N/A	53 907	manatee hide	2695	"Manatee hides exported from Manaus, 1937-54."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
78	Trichechus manatus/Trichechus inunguis	Manaus	Rio de Janeiro; Santos; Sao Paulo; Antonina	1942	N/A	29 913	manatee hide	1496	"Manatee hides exported from Manaus, 1937-54."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
79	Trichechus manatus/Trichechus inunguis	Itacoatiara	N/A	1942	N/A	6 559	manatee hide	328	"Other manatee hides exported, destinations not specified."	Jobim, 1948.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
80	Trichechus manatus/Trichechus inunguis	Manaus	Rio de Janeiro; Sao Paulo; Maranhão; New York	1943	N/A	24 142	manatee hide	1207	"Manatee hides exported from Manaus, 1937-54."	Maia, 1936.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

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81	Trichechus manatus/Trichechus inunguis	Itacoatiara	N/A	1943	N/A	1 840	manatee hide	92	"Other manatee hides exported, destinations not specified."	Jobim, 1948.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
82	Trichechus manatus/Trichechus inunguis	R. Branco	Manaus or Belém	1950	N/A	144	mixira (fried meat preserved in its own fat)	2	"Mixira brought to Manaus, 1853-1951."	BACA No. 133, 1952.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
83	Trichechus manatus/Trichechus inunguis	Manaus	N/A	1950	N/A	38 013	manatee hide	1901	"Manatee hides exported from Manaus, 1937-54."	Carvalho, 1967.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
84	Trichechus manatus/Trichechus inunguis	R. Branco	Manaus or Belém	1951	N/A	32	mixira (fried meat preserved in its own fat)	0.4	"Mixira brought to Manaus, 1853-1951."	BACA NO. 120, 1951.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

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85	Trichechus manatus/Trichechus inunguis	Manaus	N/A	1951	N/A	45 060	manatee hide	2253	"Manatee hides exported from Manaus, 1937-54."	Carvalho, 1967.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
86	Trichechus manatus/Trichechus inunguis	Manaus	N/A	1952	N/A	13 143	manatee hide	657	"Manatee hides exported from Manaus, 1937-54."	Carvalho, 1967.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
87	Trichechus manatus/Trichechus inunguis	Manaus	N/A	1953	N/A	20 000	manatee hide	1000	"Manatee hides exported from Manaus, 1937-54."	Carvalho, 1967.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
88	Trichechus manatus/Trichechus inunguis	N/A	Brazil	1954	N/A	5 000	Salted and dried meat	125	"Production of preserved manatee meat in Brazil, 1954-69."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manti	Comment	Noted_by	Reference
89	Trichechus manatus/Trichechus inunguis	Manaus	N/A	1954	N/A	5 509	manatee hide	275	"Manatee hides exported from Manaus, 1937-54."	Carvalho, 1967.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785-1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
90	Trichechus manatus/Trichechus inunguis	N/A	Brazil	1956	N/A	15 000	Salted and dried meat	375	"Production of preserved manatee meat in Brazil, 1954-69."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785-1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
91	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1956	N/A	84 000	manatee meat	2100	"Exports of manatee meat from Amazonas, 1855-1973."	Goncalves, 1904.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785-1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
92	Trichechus manatus/Trichechus inunguis	Rio Branco; Para	Brazil	1956	N/A	9 000	manatee meat	225	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785-1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
93	Trichechus manatus/Trichechus inunguis	N/A	Brazil	1957	N/A	4 000	Salted and dried meat	100	"Production of preserved manatee meat in Brazil, 1954-69."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
94	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1957	N/A	119 000	manatee meat	2975	"Exports of manatee meat from Amazonas, 1855-1973."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
95	Trichechus manatus/Trichechus inunguis	Rio Branco; Para	Brazil	1957	N/A	8 000	manatee meat	200	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
96	Trichechus manatus/Trichechus inunguis	N/A	Brazil	1958	N/A	23 000	Salted, dried and pickled meat.	575	"Production of preserved manatee meat in Brazil, 1954-69."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
97	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1958	N/A	248 000	manatee meat	6200	"Exports of manatee meat from Amazonas, 1855-1973."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
98	Trichechus manatus/Trichechus inunguis	Rio Branco; Para	Brazil	1958	N/A	9 000	manatee meat	225	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
99	Trichechus manatus/Trichechus inunguis	N/A	Brazil	1959	N/A	37 000	Salted, dried and pickled meat.	925	"Production of preserved manatee meat in Brazil, 1954-69."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
100	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1959	N/A	262 000	manatee meat	6550	"Exports of manatee meat from Amazonas, 1855-1973."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manti	Comment	Noted_by	Reference
101	Trichechus manatus/Trichechus inunguis	Rio Branco; Para; Alagoas	Brazil	1959	N/A	8 000	manatee meat	200	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785-1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
102	Trichechus manatus/Trichechus inunguis	N/A	Brazil	1960	N/A	44 000	Salted, dried and pickled meat; mixira	1100	"Production of preserved manatee meat in Brazil, 1954-69."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785-1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
103	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1960	N/A	235 000	manatee meat	5875	"Exports of manatee meat from Amazonas, 1855-1973."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785-1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
104	Trichechus manatus/Trichechus inunguis	Rio Branco; Para	Brazil	1960	N/A	9 000	manatee meat	225	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785-1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R



Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
105	Trichechus manatus/Trichechus inunguis	N/A	Brazil	1961	N/A	187 000	Salted, dried and pickled meat; mixira	4675	"Production of preserved manatee meat in Brazil, 1954-69."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
106	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1961	N/A	243 000	manatee meat	6075	"Exports of manatee meat from Amazonas, 1855-1973."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
107	Trichechus manatus/Trichechus inunguis	Rio Branco; Para	Brazil	1961	N/A	9 000	manatee meat	225	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
108	Trichechus manatus/Trichechus inunguis	N/A	Brazil	1962	N/A	42 000	Salted, dried and pickled meat.	1050	"Production of preserved manatee meat in Brazil, 1954-69."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
109	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1962	N/A	83 000	manatee meat	2075	"Exports of manatee meat from Amazonas, 1855-1973."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
110	Trichechus manatus/Trichechus inunguis	Rio Branco; Para	Brazil	1962	N/A	7 000	manatee meat	175	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
111	Trichechus manatus/Trichechus inunguis	N/A	Brazil	1963	N/A	48 000	Salted, dried and pickled meat; mixira	1200	"Production of preserved manatee meat in Brazil, 1954-69."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
112	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1963	N/A	109 000	manatee meat	2725	"Exports of manatee meat from Amazonas, 1855-1973."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
113	Trichechus manatus/Trichechus inunguis	Para	Brazil	1963	N/A	7 000	manatee meat	175	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
114	Trichechus manatus/Trichechus inunguis	N/A	Brazil	1964	N/A	40 000	Salted, dried and pickled meat.	1000	"Production of preserved manatee meat in Brazil, 1954-69."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
115	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1964	N/A	74 000	manatee meat	1850	"Exports of manatee meat from Amazonas, 1855-1973."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
116	Trichechus manatus/Trichechus inunguis	Para; Bahia	Brazil	1964	N/A	6 000	manatee meat	150	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
117	Trichechus manatus/Trichechus inunguis	N/A	Brazil	1965	N/A	34 000	Salted, dried and pickled meat.	850	"Production of preserved manatee meat in Brazil, 1954-69."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
118	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1965	N/A	98 000	manatee meat	2450	"Exports of manatee meat from Amazonas, 1855-1973."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
119	Trichechus manatus/Trichechus inunguis	Para	Brazil	1965	N/A	5 000	manatee meat	125	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
120	Trichechus manatus/Trichechus inunguis	N/A	Brazil	1966	N/A	35 000	Salted, dried and pickled meat.	875	"Production of preserved manatee meat in Brazil, 1954-69."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manti	Comment	Noted_by	Reference
121	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1966	N/A	66 000	manatee meat	1650	"Exports of manatee meat from Amazonas, 1855-1973."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
122	Trichechus manatus/Trichechus inunguis	Para	Brazil	1966	N/A	6 000	manatee meat	150	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
123	Trichechus manatus/Trichechus inunguis	N/A	Brazil	1967	N/A	31 000	Salted, dried and pickled meat.	775	"Production of preserved manatee meat in Brazil, 1954-69."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
124	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1967	N/A	44 000	manatee meat	1100	"Exports of manatee meat from Amazonas, 1855-1973."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manti	Comment	Noted_by	Reference
125	Trichechus manatus/Trichechus inunguis	Para	Brazil	1967	N/A	4 000	manatee meat	100	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
126	Trichechus manatus/Trichechus inunguis	N/A	Brazil	1968	N/A	54 000	Salted and dried meat	1350	"Production of preserved manatee meat in Brazil, 1954-69."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
127	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1968	N/A	56 000	manatee meat	1400	"Exports of manatee meat from Amazonas, 1855-1973."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
128	Trichechus manatus/Trichechus inunguis	Para	Brazil	1968	N/A	5 000	manatee meat	125	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
129	Trichechus manatus/Trichechus inunguis	N/A	Brazil	1969	N/A	51 000	Manatee	1275	"Production of preserved manatee meat in Brazil, 1954-69."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785-1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
130	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1969	N/A	62 000	manatee meat	1550	"Exports of manatee meat from Amazonas, 1855-1973."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785-1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
131	Trichechus manatus/Trichechus inunguis	Para	Brazil	1969	N/A	5 000	manatee meat	125	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785-1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
132	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1970	N/A	49 000	manatee meat	1225	"Exports of manatee meat from Amazonas, 1855-1973."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785-1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
133	Trichechus manatus/Trichechus inunguis	Para	Brazil	1970	N/A	5 000	manatee meat	125	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
134	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1971	N/A	59 000	manatee meat	1475	"Exports of manatee meat from Amazonas, 1855-1973."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
135	Trichechus manatus/Trichechus inunguis	Para	Brazil	1971	N/A	4 000	manatee meat	100	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
136	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1972	N/A	11 000	manatee meat	275	"Exports of manatee meat from Amazonas, 1855-1973."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R



Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
137	Trichechus manatus/Trichechus inunguis	Para	Brazil	1972	N/A	3 000	manatee meat	75	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
138	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1973	N/A	45 000	manatee meat	1125	"Exports of manatee meat from Amazonas, 1855-1973."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
139	Trichechus manatus/Trichechus inunguis	Para	Brazil	1973	N/A	10 000	manatee meat	250	"Manatee production in Brazil, 1956-73."	AEB	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
140	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1992	764 latas	16 808	mixira (fried meat preserved in its own fat)	221	"Mixira exported from Amazonas, 1855-1948."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
141	Trichechus manatus/Trichechus inunguis	Amazonas and Para	Belém	1992	N/A	19 675	mixira (fried meat preserved in its own fat)	259	"Mixira brought to Belém, 1855-1915."	Verissimo, 1895; Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
142	Trichechus manatus/Trichechus inunguis	N/A	Manaus	1853 (1st semester)	4702 pots	117 550	manatee lard	1547	"Commerce in manatee lard in Brazil."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
143	Trichechus manatus/Trichechus inunguis	S. Paulo; Tonantins; Coary	Manaus or Belém	1858 (1st semester)	9 pots	225	mixira (fried meat preserved in its own fat)	3	"Mixira brought to Manaus, 1853-1951."	Leitao da Cunha, 1858	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associação Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress.
144	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1858 (1st semester)	9 pots	225	mixira (fried meat preserved in its own fat)	3	"Mixira exported from Amazonas, 1855-1948."	Leitao da Cunha, 1858	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manti	Comment	Noted_by	Reference
145	Trichechus manatus/Trichechus inunguis	Amazonas; Gurupa; Breves	Belém	1858 (1st semester)	12 potes	300	mixira (fried meat preserved in its own fat)	4	"Mixira brought to Belém, 1855-1915."	Leitao da Cunha, 1858	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
146	Trichechus manatus/Trichechus inunguis	Manaus	N/A	1858 (1st semester)	44 arrobas	660	manatee meat	17	"Exports of manatee meat from Amazonas, 1855-1973."	Leitao da Cunha, 1858	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
147	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1863-64	260 potes	6500	mixira (fried meat preserved in its own fat)	86	"Mixira exported from Amazonas, 1855-1948."	Bastos, 1866.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
148	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1867 (May-Dec.)	3 potes	75	mixira (fried meat preserved in its own fat)	1	"Mixira exported from Amazonas, 1855-1948."	Souza, 1875.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
149	Trichechus manatus/Trichechus inunguis	N/A	Manaus or Belém	1869-70	467 potes	11 675	mixira (fried meat preserved in its own fat)	154	"Mixira brought to Manaus, 1853-1951."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associação Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress.
150	Trichechus manatus/Trichechus inunguis	N/A	Manaus or Belém	1870-71	719 potes	17 975	mixira (fried meat preserved in its own fat)	237	"Mixira brought to Manaus, 1853-1951."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associação Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress.
151	Trichechus manatus/Trichechus inunguis	N/A	Manaus	1870-71	4 arrobas	60	manatee meat	2	"Manatee meat brought to Manaus, 1853-1904."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
152	Trichechus manatus/Trichechus inunguis	N/A	Manaus or Belém	1871-72	956 pots	23 900	mixira (fried meat preserved in its own fat)	314	"Mixira brought to Manaus, 1853-1951."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associação Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress.
153	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1871-72	956 pots	23 900	mixira (fried meat preserved in its own fat)	314	"Mixira exported from Amazonas, 1855-1948."	Souza, 1875.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
154	Trichechus manatus/Trichechus inunguis	Amazonas	N/A	1871-72	N/A	527.384	manatee meat	13	"Exports of manatee meat from Amazonas, 1855-1973."	Souza, 1875.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manti	Comment	Noted_by	Reference
155	Trichechus manatus/Trichechus inunguis	N/A	Manaus or Belém	1873-74	302 potes	7 550	mixira (fried meat preserved in its own fat)	99	"Mixira brought to Manaus, 1853-1951."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associação Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress.
156	Trichechus manatus/Trichechus inunguis	N/A	Manaus	1873-74	N/A	529	manatee meat	13	"Manatee meat brought to Manaus, 1853-1904."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
157	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1876-77	418 latas	9196	mixira (fried meat preserved in its own fat)	121	"Mixira exported from Amazonas, 1855-1948."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
158	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1877-78	1006 latas	22 132	mixira (fried meat preserved in its own fat)	291	"Mixira exported from Amazonas, 1855-1948."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
159	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1878-79	641 latas	14 102	mixira (fried meat preserved in its own fat)	186	"Mixira exported from Amazonas, 1855-1948."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
160	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1879-80	707 latas	15 554	mixira (fried meat preserved in its own fat)	205	"Mixira exported from Amazonas, 1855-1948."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
161	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1880-81	989 latas	21 758	mixira (fried meat preserved in its own fat)	286	"Mixira exported from Amazonas, 1855-1948."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
162	Trichechus manatus/Trichechus inunguis	R. Puros; R. Jurua; R. Solimoes	Manaus or Belém	1881-82	N/A	1221	mixira (fried meat preserved in its own fat)	16	"Mixira brought to Manaus, 1853-1951."	Santa-Anna Nery, 1885.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associacao Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress.

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manti	Comment	Noted_by	Reference
163	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1881-82	1717 latas	37 774	mixira (fried meat preserved in its own fat)	497	"Mixira exported from Amazonas, 1855-1948."	Le Cointe, 1922.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
164	Trichechus manatus/Trichechus inunguis	Rio Purus	Manaus	1881-82	N/A	90	manatee meat	2	"Manatee meat brought to Manaus, 1853-1904."	Santa-Anna Nery, 1885.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
165	Trichechus manatus/Trichechus inunguis	R. Solimoes	Manaus or Belém	1910 (1st trimester)	131 latas	2882	mixira (fried meat preserved in its own fat)	38	"Mixira brought to Manaus, 1853-1951."	Netto, 1911.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
166	Trichechus manatus/Trichechus inunguis	Amazonas	Belém	1910 (1st trimester)	74 latas	1 628	mixira (fried meat preserved in its own fat)	21	"Mixira exported from Amazonas, 1855-1948."	Netto, 1911.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R



Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
167	Trichechus manatus/Trichechus inunguis	Manaus	New York	1943 (1st semester)	N/A	1 682	manatee hide	84	"Manatee hides exported from Manaus, 1937-54."	Pereira, 1944.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
168	Trichechus manatus/Trichechus inunguis	Amazonas	Santos	1948 (Dec.)	N/A	300	mixira (fried meat preserved in its own fat)	4	"Mixira exported from Amazonas, 1855-1948."	BACA No. 92, 1949.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R
169	Trichechus manatus/Trichechus inunguis	N/A	Manaus or Belém	ca. 1925	500 latas	11 000	mixira (fried meat preserved in its own fat)	145	"Mixira brought to Manaus, 1853-1951."	Bittencourt, 1925.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the R

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
170	Trichechus manatus/Trichechus inunguis	the Pesqueiro Real (Royal Fishery) da Villa Franca; near Santarém	N/A	1776-78	3873 arrobas	58 095	dried and salted manatee meat	1500	"During two years in the mid-1780's, the Royal Fishery near Santarém produces 3873 arrobas (1 arroba = 15 kg) of dried and salted manatee meat and 1613 potes of manteiga (lard) (1 pote = 20-30 kg), which was the yield from approximately 1500 manatees. He states in the 1972 edition of his works that 'a good manatee., gives up to 3 or 4 arrobas of dried meat'".	Rodrigues Ferreira, 1903;1972.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associação Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress.
171	Trichechus manatus/Trichechus inunguis	the Pesqueiro Real (Royal Fishery) da Villa Franca; near Santarém	N/A	1776-78	1613 potes	40 325	manteiga (lard); butter	1500	"During two years in the mid-1780's, the Royal Fishery near Santarém produces 3873 arrobas of dried and salted manatee meat and 1613 potes of manteiga (lard) (1 pote = 20-30 kg),	Rodrigues Ferreira, 1903;1972.	Domning, D. P. (1982). Commercial exploitation of manatees Trichechus in Brazil c. 1785–1973. Biological Conservation, 22(2), 101-126; the Amazoniana Collection in the library of the Instituto Nacional de Pesquisas da Amazonia, Manaus; the files of the Revista and Boletim of the Associação Commercial do Amazonas at the Association's headquarters in Manaus; the holdings of the US Library of Congress; Smith, N. J. (1981).

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manati	Comment	Noted_by	Reference
									which was the yield from approximately 1500 manatees. He states in the 1972 edition of his works that 'a good manatee., gives up to 3 or 4 arrobas of dried meat'.		Caimans, capybaras, otters, manatees, and man in Amazonia. Biological Conservation, 19(3), 177-187.
172	Trichechus manatus/Trichechus inunguis	N/A	Belém	1876 - 1915	N/A	209 748	mixira (fried meat preserved in its own fat)	N/A	"a total of 209 748 kg entered the Belbm market between 1876 and 1915 "	LeCoointe, 1922	Smith, N. J. (1981). Caimans, capybaras, otters, manatees, and man in Amazonia. Biological Conservation, 19(3), 177-187.
173	Trichechus manatus/Trichechus inunguis	N/A	Rio de Janeiro	1938 - 1942	N/A	137 529	manatee hides	N/A	"One Manaus firm alone sent 6549 manatee hides, weighing an average 21 kg each, to Rio de Janeiro between 1938 and 1942"	N/A	Smith, N. J. (1981). Caimans, capybaras, otters, manatees, and man in Amazonia. Biological Conservation, 19(3), 177-187.

Dataset_ID	Taxa	Export_From	Export_To	Year	Original_Quantity	Quantity_kg	Product	Nr_of_manti	Comment	Noted_by	Reference
174	Trichechus manatus/Trichechus inunguis	Rio Negro	Pará	1801-1900	224 arrobas	3 360	manatee meat	N/A	A nineteenth-century statistical report on the industry and commerce of the Province of Amazonas shows the export of 224 arrobas (3360 kilos) of manatee meat, 4702 pots of manatee butter and 546 pots of manatee mixira from Rio Negro to Pará, apparently a smaller amount than in the previous century."	Herculano Ferreira Pena, Falla dirigida á Assembléa Legislativa Provincial do Amazonas, no dia 1.o de agosto de 1854, em que se abriu a sua 3.a sessão ordinaria, pelo presidente da provincia, o conselheiro Herculano Ferreira (Barra do Rio Negro, 1854), 52.	Vieira, N., & Brito, C. (2017). Brazilian manatees (re) discovered: Early modern accounts reflecting the overexploitation of aquatic resources and the emergence of conservation concerns. <i>International Journal of Maritime History</i> , 29(3), 513-528.

Appendix VI  
Survey and report (English ver.)

## 6.1 Survey Questionnaire

A survey was developed to gather additional information on the current view of the manatee, and its role in contemporary society from willing participants in educational and research sectors and fishing villages in the Caribbean (Hispaniola, Cuba, but also Washington DC, Norway, as well as one participant from the African Aquatic Conservation Fund). The survey was created in Nettskjema (UiO), an Internet-based survey tool that allows survey respondents to answer questions online. Additionally, a paper version was used in areas where participants were unable to answer the online version. Here, information was gathered through the help of Marie Danielle Dorvilier, Widlin Florvil and Jean Ernes Felix. The survey had an English, French, Spanish, and Creole version. It was anonymous but included an approximation of the participants geographical location, profession, age, and gender, followed by 12 questions requesting information on the respondent's direct experience with manatees and knowledge on their history with humans throughout time. The survey was also distributed by e-mail to individuals identified in the literature review. A total of 83 surveys was conducted. Survey responses aided in establishing contemporary data, drawing up a timeline for the changing role and value of the manatee.

**Link to zip file:** [Survey.zip](#)

### Survey Questions

Please read this paragraph before you begin the survey.

Hello, my name is Léanna Frafjord Saint-Victor from the Norwegian University of Science and Technology, Trondheim. I am working on my Master thesis, *Memoir of a Caribbean Mermaid – A Historical Ecology Study Exploring the Changing Perspectives and Human Exploitation of Manatees in the Caribbean*, that is part of the ERC Synergy project, 4-OCEANS: A Human History of Marine Life c.100 BCE to c.1860 CE. Through this survey for my thesis, you identify yourself as willing to answer a selected number of questions and allow me to use the information in my dissertation and subsequent publication as part of my research.

This survey questionnaire is distributed to individuals from fishing villages from the coast of Hispaniola and Cuba, as well as people from educational and research institutions in Florida, Haiti, the Dominican Republic and Africa. The results from this survey will be used to aid analysis in my master's thesis in Archaeology. The research that motivated this survey is part of the 4-OCEANS project. Details about the project are available at [[4-Oceans - NTNU](#)].

The survey will take around 10 minutes of your time and will ask for you to relay your direct experience and knowledge on this topic. Participation is voluntary and anonymous (aside from an approximation of your cultural background, geographical information, profession, age and gender), and you can choose to not answer any question that you do not want to answer, and you can stop at any time. I will only use the collected data for the purpose(s) specified here and I will process any slight personal data in accordance with data protection legislation (the GDPR).

Thank you for your participation in this survey.

**Section 1:**

Please enter the following information

**1.) What gender are you?**

- Woman
- Man
- Other:.....

**2.) How old are you?**

- 18-24
- 25-34
- 35-44
- 45-50
- 50+

**3.) Where are you located?**

- Florida
- The Dominican Republic
- Haiti
- Cuba
- Other:.....

**4.) What is your profession?**

- Student
- Education
- Research
- Conservation and protection
- Fishing
- Enthusiast (manatees, ecology, history, archaeology)
- Other

**Survey: What is the current view on the manatee and its role in our society?**

- 1.)** I am interested in taking part in this questionnaire based on my interest and/or knowledge of manatees.
- Yes – this option will take you to the next section and lead you through various questions based on your level of interest and knowledge.
  - No – this option will take you to the last page and will not require you to answer any of the questions.

**Section 2:** The manatee is an extremely important aquatic animal that helps define the ecosystem it lives in. Without it, the ecosystem would change significantly. The species has a long history of being a target of exploitation and is currently listed as an endangered species.

**2.) How often have you heard of matters concerning manatees?**

- 4+ times
- 2-3 times
- Once
- Never
- Unsure

**3.) How many times have you seen a manatee in captivity?**

- 4+ times
- 2-3 times

- Once
- Never
- Unsure

**4.) How many times have you seen a manatee in the wild?**

- 4+ times
- 2-3 times
- Once
- Never
- Unsure

**5.) What value does the manatee hold to you (you can tick off multiple boxes)?**

- Value as an endangered species
- Value in eco-tourism
- Value as a product in trade
- Value as food
- Value as a symbol (status, religion, medicine, good luck)
- Value as an ecological keystone species
- Value as a living being
- No opinion
- No value

**6.) How important do you think the manatee is for the environment?**

- Extremely important
- Very important
- Moderately important
- Slightly important
- Not at all important
- Unsure

**7.) Did you know that manatees:**

Can help maintain mangroves and seagrass, which consequently can contribute to reducing global warming.

- Yes
- No

Can contribute to better fishing conditions with bigger catch.

- Yes
- No

Can ensure clearer waters and, in turn, cleaner beaches.

- Yes
- No

Have an effect on the abundance of marine life, helping coastal environments stay rich and healthy.

- Yes
- No

**8.) Do you have any connections (friends, family, etc.) with people with cultural heritage from any Indigenous groups in your geographical area?**

- Taíno
- Kalinago
- Kalina
- Maya
- Mískito



Other:.....

None

**9.) Have you been told any mythological stories of the manatee (you can tick off multiple boxes)?**

Mythical/religious origin stories

Stories of mermaids and sirens

Taíno folk legends

Maya folk legends

Other:.....

Never

**10.) Among members of your local or personal cultural heritage, how do you think manatees were traditionally treated in the past (you can tick off multiple boxes)?**

The manatees were considered sacred/good luck and were not hunted at all.

The manatees were considered sacred/good luck and had a taboo placed on them, so they were only hunted occasionally.

The manatee was considered a status symbol, and only the elite could consume its meat and use objects made from it.

The manatee was seen as something exotic, a commodity with a lot of economic value.

The manatee was considered a dangerous animal, and was avoided because of its large size and particular looks.

The manatee was considered a prime target during hunting due to its non-aggressive nature, its size, high fat content and delicious meat.

Other:.....

**11.) Optional: How many times did a member of your grandparent's generation see manatees in the wild during their youth?**

4+ times

2-3 times

Once

Never

Unsure

**12.) Optional: Curiously, there have also been very few manatee bones found in archaeological excavations. Why do you think this is?**

Many manatees were hunted out during the colonial era.

Manatees were always very rare.

The manatees were too hard to catch.

Hunted manatees were processed at the shoreline, and only the necessary parts were brought back. Everything else was lost to the sea.

Other:.....

## 6.2 Survey Report



### Current View of the Manatee - And its Role in Our Society

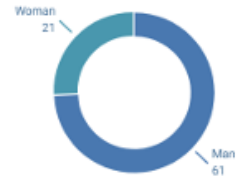
Oppdatert: 11. mai 2024 kl. 13:59

#### Section 1: Please enter the following information

Whatgenderareyou?

Antall svar: 82

Svar	Antall	% av svar
Woman	21	25.6%
Man	61	74.4%
Other	0	0%

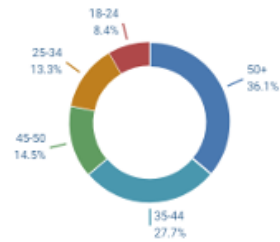


#### Please enter the following information

Howoldareyou?

Antall svar: 83

Svar	Antall	% av svar
18-24	7	8.4%
25-34	11	13.3%
35-44	23	27.7%
45-50	12	14.5%
50+	30	36.1%



#### Please enter the following information

Whereareyoulocated?

Antall svar: 83

Svar	Antall	% av svar
Florida	0	0%
Cuba	2	2.4%
Haiti	72	86.7%
The Dominican Republic	1	1.2%
Other	8	9.6%

Side: 1/11

## 6.2 Survey Report

If you chose to tick off "Other" in the previous question, please elaborate on your answer here:

Antall svar: 8

• Norway

• Norway

• Norway

• Norway

• Norway

• Senegal








• USA - Washington, DC area

• Norway

Please enter the following information

What is your profession?

Antall svar: 82

Svar	Antall	% av svar	
Student	5	6.1%	 6.1%
Education	6	7.3%	 7.3%
Research	3	3.7%	 3.7%
Conservation and protection	1	1.2%	 1.2%
Fishing	44	53.7%	 53.7%
Enthusiast (manatees, ecology, history, archaeology)	2	2.4%	 2.4%
Other	21	25.6%	 25.6%

Side: 2/11

## 6.2 Survey Report

If you chose to tick off "Other" in the previous question, please elaborate on your answer here:

Antall svar: 17

- Engineer
- Consultant
- Economy
- Fish seller
- Accountant
- Engineer
- Healthcare
- merchant/trade
- Masonry
- Trader
- Trader
- Trader
- Trade
- salt marsh employee and entrepreneur
- Fishing, beekeeper and salt marsh employee
- merchant
- Broker

Side: 3/11

## 6.2 Survey Report

### Survey: What is the current view on the manatee and its role in our society?

I am interested in taking part in this questionnaire based on my interest and/or knowledge of manatees

Antall svar: 83

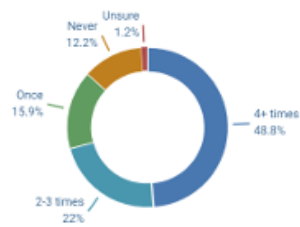
Svar	Antall	% av svar
Yes – this option will take you to the next section and lead you through various questions based on your level of interest and knowledge .	83	100%
No – this option will take you to the last page and will not require you to answer any of the questions .	0	0%

Section 2: The manatee is an extremely important aquatic animal that helps define the ecosystem it lives in. Without it, the ecosystem would change significantly. This species has a long history of being a target of exploitation and is currently listed as an endangered species.

### How often have you heard of matters concerning manatees?

Antall svar: 82

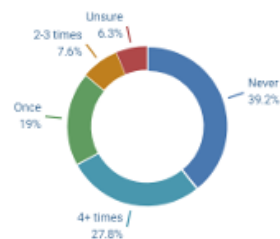
Svar	Antall	% av svar
4+ times	40	48.8%
2-3 times	18	22%
Once	13	15.9%
Never	10	12.2%
Unsure	1	1.2%



### How many times have you seen a manatee in captivity?

Antall svar: 79

Svar	Antall	% av svar
4+ times	22	27.8%
2-3 times	6	7.6%
Once	15	19%
Never	31	39.2%
Unsure	5	6.3%



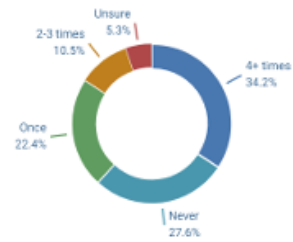
Sida: 4/11

## 6.2 Survey Report

### How many times have you seen a manatee in the wild?

Antall svar: 76

Svar	Antall	% av svar
4+ times	26	34.2%
2-3 times	8	10.5%
Once	17	22.4%
Never	21	27.6%
Unsure	4	5.3%



### What value does the manatee hold to you (you can tick off multiple boxes)?

Antall svar: 81







Svar	Antall	% av svar
Value as an endangered species	50	61.7%
Value in eco-tourism	29	35.8%
Value as a product in trade	12	14.8%
Value as food	20	24.7%
Value as a symbol (status, religion, medicine, good luck)	1	1.2%
Value as an ecological keystone species	16	19.8%
Value as a living being	20	24.7%
No opinion	4	4.9%
No value	2	2.5%

Side: 5/11

## 6.2 Survey Report

### How important do you think the manatee is for the environment?

Antall svar: 81

Svar	Antall	% av svar	
Extremely important	45	55.6%	 55.6%
Very important	21	25.9%	 25.9%
Moderately important	5	6.2%	 6.2%
Slightly important	3	3.7%	 3.7%
Not at all important	2	2.5%	 2.5%
Unsure	5	6.2%	 6.2%

### Did you know that manatees:

Svar	Yes	No	Diagram
Can help maintain mangroves and seagrass, which consequently can contribute to reducing global warming.	43	37	
Can contribute to better fishing conditions with bigger catch.	53	26	
Can ensure clearer waters and, in turn, cleaner beaches.	49	27	
Have an effect on the abundance of marine life, helping coastal environments stay rich and healthy.	52	15	

0% 10 20 30 40 50 60 70 80 90 100%





■ Yes ■ No

Side: 6/11

## 6.2 Survey Report







### Do you have any connections (friends, family, etc.) with people with cultural heritage from any Indigenous groups in your geographical area?

Antall svar: 80

Svar	Antall	% av svar	
Taino	2	2.5%	 2.5%
Kalinago	0	0%	0%
Kalina	0	0%	0%
Maya	1	1.3%	 1.3%
Miskito	0	0%	0%
Other	2	2.5%	 2.5%
None	75	93.8%	 93.8%

### Have you been told any mythological stories of the manatee (you can tick off multiple boxes)?

Antall svar: 79

Svar	Antall	% av svar	
Mythical /religious origin stories	7	8.9%	 8.9%
Stories of mermaids and sirens	12	15.2%	 15.2%
Taino folk legends	2	2.5%	 2.5%
Maya folk legends	1	1.3%	 1.3%
Other	22	27.8%	 27.8%
Never	38	48.1%	 48.1%

Side: 7/11



## 6.2 Survey Report

**If you chose to tick off "Other" in the previous question, please elaborate on your answer here:**

Antall svar: 9








- It tastes like a mixture of pork and cow when it gives you its meat.  
\_\_\_\_\_
- It's meat is a mixture of pork and beef.  
\_\_\_\_\_
- It's meat is a mixture of pork and beef.  
\_\_\_\_\_
- It's meat is a mixture of pork and beef.  
\_\_\_\_\_
- I don't know.  
\_\_\_\_\_
- Its meat tastes like a mixture of pork and beef.  
\_\_\_\_\_
- It's breath (it can blow over) can overturn boats.  
\_\_\_\_\_
- Never ride on the back of a manatee.  
\_\_\_\_\_
- It's meat taste like pork and beef.  
\_\_\_\_\_

Side: 8/11

## 6.2 Survey Report

### Among members of your local or personal cultural heritage, how do you think manatees were traditionally treated in the past (you can tick off multiple boxes)?

Antall svar: 80

Svar	Antall	% av svar	
The manatees were considered sacred/good luck and were not hunted at all.	22	27.5%	 27.5%
The manatees were considered sacred/good luck and had a taboo placed on them, so they were only hunted occasionally.	16	20%	 20%
The manatee was considered a status symbol, and only the elite could consume its meat and use objects made from it.	14	17.5%	 17.5%
The manatee was seen as something exotic, a commodity with a lot of economic value.	29	36.3%	 36.3%
The manatee was considered a dangerous animal, and was avoided because of its large size and particular looks.	11	13.8%	 13.8%
The manatee was considered a prime target during hunting due to its non-aggressive nature, its size, high fat content and delicious meat.	20	25%	 25%
Other	5	6.3%	 6.3%

### If you chose to tick off "Other" in the previous question, please elaborate on your answer here:

Antall svar: 5

- No idea

---

- I don't know

---

- Like a gift. Something intangible, that gave good feelings.

---

- Manatees were traditionally only hunted by people from specific hunting families, with knowledge and rituals of how to hunt them passed from father to son.

---

- When I was growing up (on the Mississippi Gulf Coast), manatees were essentially unknown. Only in later decades have they become relatively common summer visitors, but most people there have not seen them locally and know little or nothing about them.

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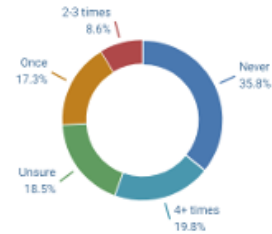
Side: 9/11

## 6.2 Survey Report

### Optional: How many times did a member of your grandparent's generation see manatees in the wild during their youth?

Antall svar: 81

Svar	Antall	% av svar
4+ times	16	19.8%
2-3 times	7	8.6%
Once	14	17.3%
Never	29	35.8%
Unsure	15	18.5%



### Optional: Curiously, there have also been very few manatee bones found in archaeological excavations. Why do you think this is?

Antall svar: 79

Svar	Antall	% av svar
Many manatees were hunted out during the colonial era.	2	2.5%
Manatees were always very rare.	30	38%
The manatees were too hard to catch.	25	31.6%
Hunted manatees were processed at the shoreline, and only the necessary parts were brought back. Everything else was lost to the sea.	13	16.5%
Other	9	11.4%

Side: 10/11

## 6.2 Survey Report

**If you chose to tick off "Other" in the previous question, please elaborate on your answer here:**

Antall svar: 8

- Haiti does not and never had systems (institutions) to take care of such issues. It is not and was not a priority.

---
- Manatees were also rare I think.

---
- Manatees were rare I think.

---
- I don't know.

---
- I don't know.

---
- I don't know.

---
- There are much more blood/meat than bones.

---
- The manatee is older than bone (no bones left because of age).

---

## Appendix VII

### Additional Tables and Figures

## 7.1 Additional Tables and Figures

Table 6. Number of different types of artifacts.

Artifact	Total nr. of datasets	Maya	Taino	Others
Adorno	7			7
Awl	4		3	1
Boat models	5	5		
Cohoba inhaler	3		3	
Duho	1		1	
Earring	1		1	
Effigy	11		1	10
Figurine	13	6	5	2
Game call	1			1
Hammer (?)	1		1	
Musikal rasp	4	4		
Needle	1			1
Ocarina	4		2	2
Pendant	4		2	2
Pick	7		5	2
Pottery	18	1	1	16
Spindle whorls	1	1		
Spoon/ladle	6		5	1
Unspecified	16		5	11
Vomiting spatula	49		46	3
<b>SUM</b>	<b>157</b>	<b>17</b>	<b>81</b>	<b>59</b>

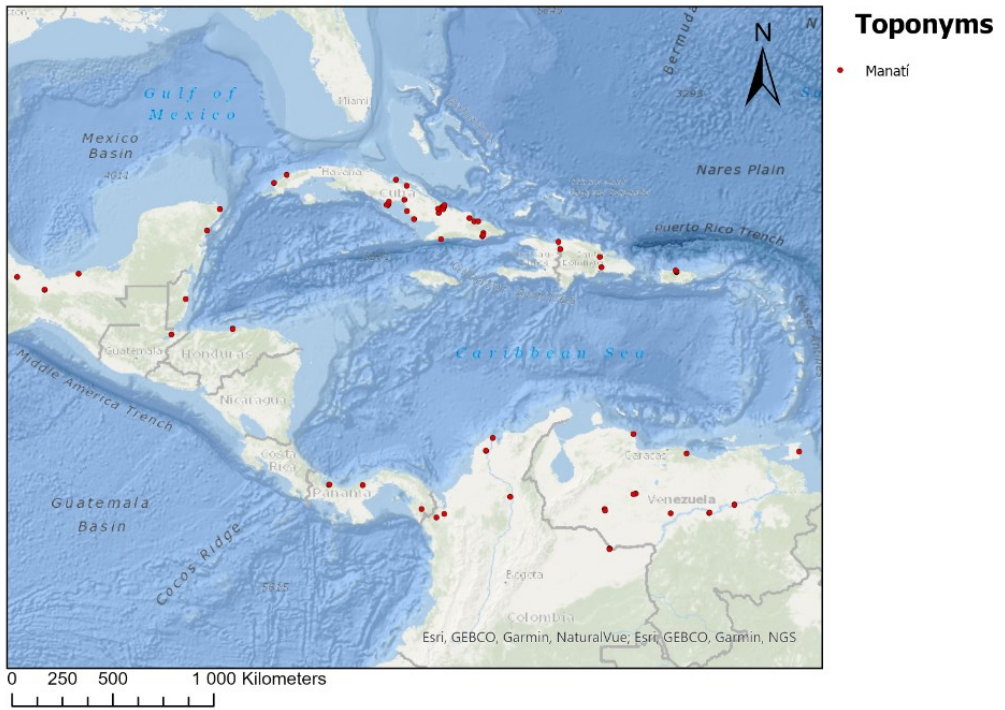


Figure 45. Map with an overview of all placenames called *Manatí*, by author.

**Zip file:** [Geo\\_names.zip](#)

Table 7. Maya figurines motif and comparative description.

O = observed  
 X = not observed  
 P = possibly

Description	Dataset ID 93	Dataset ID 68	Dataset ID 69	Dataset ID 70	Dataset ID 71	Dataset ID 155
<b>Anthropomorphic motif</b>	O	O	O	O	O	O
<b>Standing position</b>	O	O	O	O	O	O
<b>Anatomically correct</b>	O	X	X	P	O	O
<b>1:4 head-to-body ratio</b>	O	P	P	O	O	O
<b>Gender</b>	Possibly female	Possibly male	Male	Male	Possibly female	Male
<b>Delicate facial features</b>	O	X	X	P	O	O
<b>Hands in front of chest</b>	O	O	P	O	O	O
<b>Rounded shoulders</b>	O	O	X	O	O	O
<b>Rounded hips</b>	O	O	X	O	O	O
<b>Relaxed mouth</b>	O	X	O	O	O	O
<b>Hair or hairdress</b>	O	X	P	X	O	X
<b>Thin eyes</b>	O	X	O	O	O	O
<b>Protuding ears</b>	O	O	O	O	O	O



Table 8. Description of various motifs and the corresponding cemí.

Zoomorphic motif	Description	Number of depictions
Bat	Triangular nose; big protruding; pointed ears; skeletal; winged appendages; elongated fingers	4
Manatee	Bulging semi-spherical eyes; eyes surrounded by circular swellings; broad and short; cone-like head; stubby snout; two small eyes placed on either side of the face; two round nostrils placed relatively close to one another at the end of the snout	3
Lizard	Grooved, ridged tail; textured surface; elongated form; sunken eye sockets; slitted pupils; tapered snout; patterns	3
Crocodile	Jagged teeth; serrated spine; articulated tail; elongated body; tapered snout	4
Bird	Pointed beak; pointed talons; wings; elongated neck; skeletal structure	2
Canine	Defined mandible; angular skull; long snout; muzzle; articulated jaw	1
Frog	Amphibian; angular limbs; hind limbs longer and more muscular than the front limbs; segmented toes; protruding; large; bulging and circled eyes	1
Insect	Jointed appendages; chitinous body; articulated legs; large compound eyes	1
Fish	Fins; dorsal; pectoral; pelvic or caudal; small; pointed mouth; eyes on the sides of their head	2
Zemiism	Description	
Yúcahu	Trigonolith; frog-like; or crocodilian figures. Yúcahu held a sacred position in Antillean agriculture as the deity of crops. Alongside his mother Atabeyra, he nurtured the growth. Trigonal cemís, representing fertility and crafted from stone or shell, were buried in fields as offerings to Yúcahu to ensure bountiful harvests. These stones often featured frog-like or crocodilian figures.	5
Atabeyra	Mimics childbirth; or posture of frogs. As the supreme Mother Goddess, Atabeyra was revered as the feminine counterpart to the earth god Yúcahu. Her name, meaning "Mother of the Waters," reflected her dominion over fresh water sources. Atabeyra symbolized the onset of the rainy season, associated with agricultural fertility and increased human fertility during the time of planting. She bears resemblance to the Yoruba Goddess Yemaya from African traditions (Medrano-Marra, 2009).	1
Boinayel and Márohu	Siamese twins. Boinayel, known as the "Son of the Grey Serpent," brought heavy rains represented by dark clouds resembling a grey serpent, while his twin Márohu ushered in clear skies between showers. Depicted together, these twins engaged in symbolic dance or wrestling matches, each governing distinct periods of weather stability.	2
Guabancex	Swirling design/arms. The term "hurricane" (Arawak: "huracan") originated from the Ancient Antilleans to describe powerful storms at the end of the rainy season. Depicted in stone and ceramic art, Guabancex's swirling arms symbolized the rotation of hurricanes, showcasing the indigenous understanding of these natural phenomena.	1
Baibrama	Grimacing; wide-eyed gaze; erect phallus; decapitated; blinded; or amputated. Baibrama, a cadaverous shaman, symbolized life amidst death, embodying rebirth with a wide-eyed gaze and erect phallus. Despite mutilation, Baibrama regenerated endlessly, with his cemís carved from wood capturing his essence of vitality.	1
Maquetaure Guayabá	Bats; or skulls. Maquetaure Guayabá ruled Coaybay, the land of the dead, beyond the island of Soraya. Represented with bat motifs and skulls, he was associated with fruit bats who emerged at night to feed on guavas. Anthropomorphic opia, resembling humans but lacking navels, accompanied the living during nocturnal celebrations.	5
Opiyel Guobirán	Canine. The canine 'spirit of darkness,' Opiyel Guobirán, roamed the rainforest at night. Depicted ritually bound to poles or trees, this cemí served as a talisman for prayers and a guide to the spirit world, symbolizing the protective role of dogs as forest guides for hunters.	1
Specific motifs	Description	
Bared teeth	Smiling; or growling	12
Belly button	Circle or indent; stomach-area	5



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