This StoryMap draft was created for the grant project and will not be available as a StoryMap until it is reviewed and approved by the GTM Research Reserve and associated parties.

The People of Guana

"From Past to Present: Ecosystem Services and People of the Guana Peninsula," a NERRs Science Collaborative Grant

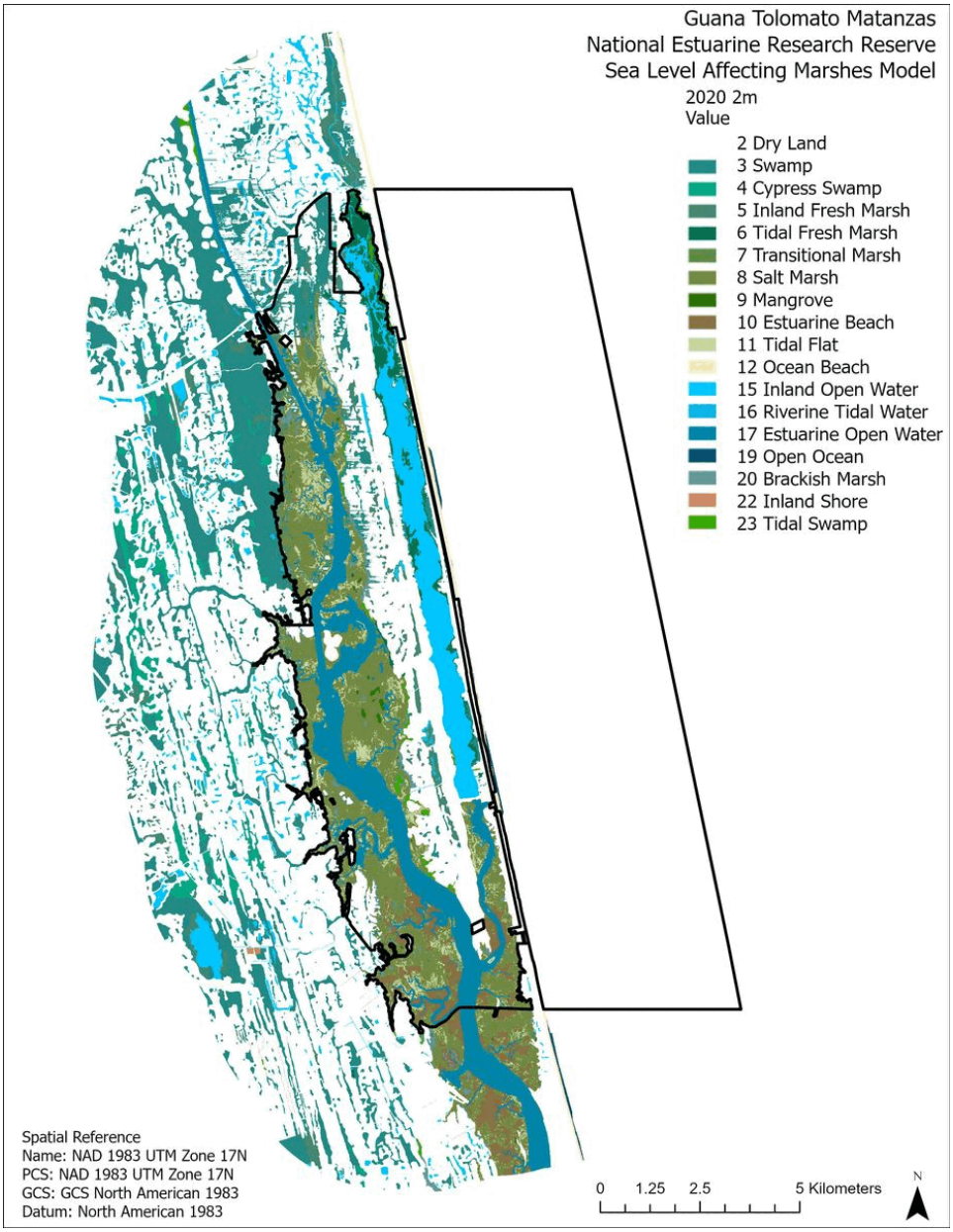
Florida Public Archaeology Network - Northeast Region

April 28, 2023

The Problem

> *Similar to coastal scientists and conservationists around the world, we in the Southeast are in a race against the rising seas to develop better tools and strategies to more effectively understand and protect these landscapes (Cochran 2023)*

For over 6,000 years, the Guana River has been home to several groups, many of whom have utilized the bounty of the natural landscape to their advantage. The stories of the people who once called the peninsula home, which we may glean in archaeological - and in some cases historical - contexts remain lost to time and the changing environment. Today, these stories are threatened by impacts from climate change and development. The image below, which predicts changes in shorelines at the GTM Research Reserve in five-year increments, highlights the extent of the climate damage expected over the next century.[1]

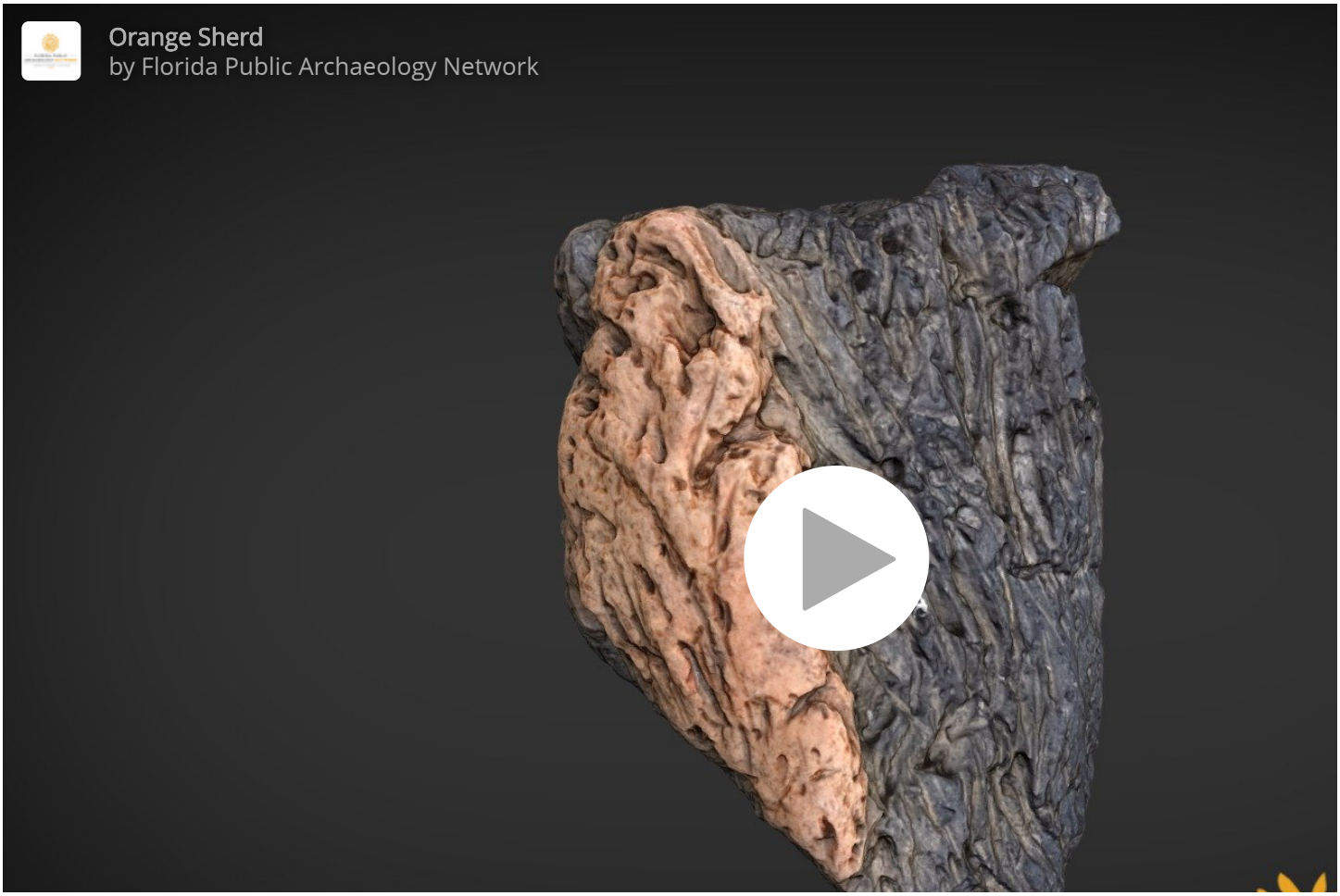


Sea Level Affecting Marshes Model (SLAMM)of the Guana Tolomato Matanzas National Estuarine Research Reserve. Credit to Lindsey Cochran, 2023.

The primary goal of this project was to better understand the ways in which people have used the landscape in the past. Further, we aimed to create a bridge between groups of the past and the present by examining current resource usage through a combination of archaeological investigations and community surveys. Read on to find out more about the project, our methods, and our findings.

The People of Guana Timeline

The land that today encompasses the GTM Research Reserve has a storied past. Scholars estimate that people have visited, occupied, and utilized this land for nearly 6,000 years! Scroll through to learn more about the various peoples that called the peninsula home.



The Florida Archaic

Following the end of the Last Ice Age (approximately 10,000 years ago), climatic conditions in Northeast Florida slowly began to transform.[2] By the beginning of the Late Archaic period (approximately 5,000 years ago), Florida's environment - and shoreline - may have stabilized to conditions near what we know today, resulting in a population influx along the St. Johns River and its tributaries. The Late Archaic period also marked a transformation in social organization as groups of hunter-fisher-gatherers began to establish seasonal and permanent settlements in areas where marine resources were abundant.[3]

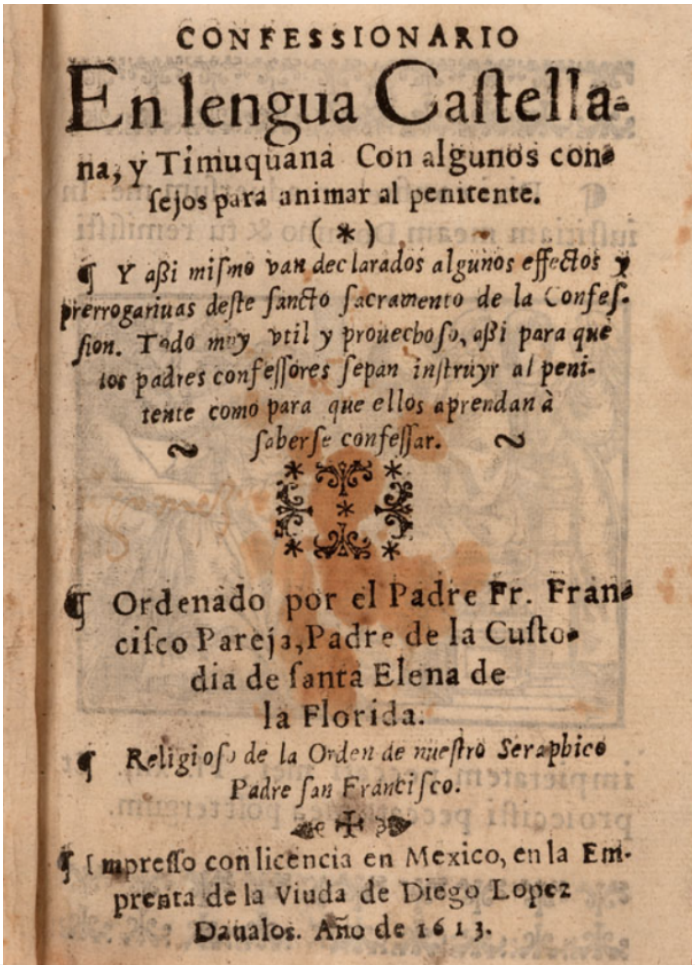
The GTM Research Reserve is home to several archaeological sites that contain evidence of these early Floridians, including a shell ring site, remains of shell middens, and artifact inclusions containing shell tools, lithic flakes, and early fiber-tempered ceramics, such as the sherd modeled here.

Before European Arrival: The Pre-Contact Period

Remnants of indigenous life at the GTM-Research Reserve do not end after the Archaic period. Rather, archaeological evidence suggests indigenous occupation of the landscape up until - and even after - European arrival. In the periods precluding contact with Spanish forces, the land that we now call the GTM Research Reserve may have been utilized on a permanent or semi-permanent basis by indigenous groups.[4] Perhaps the most well-documented indigenous group at the GTM Research Reserve were the Timucua people, who may have called the peninsula - and much of Northeast Florida - home.

The name “Timucua” actually refers to the language spoken by approximately 30 groups that once inhabited North Florida and South Georgia.[5] Among these, two groups, which scholars have coined the Saturiwa and the Freshwater, may have lived around present-day St. Augustine. Based on archaeological evidence, and in later periods,

historical accounts, these Timucua speakers may have been part-time horticulturists, meaning that they may have planted crops for subsistence, and supplemented these with hunting, fishing, and gathering. Archaeological evidence of this period includes St. Johns pottery (pictured here), burial mounds, and shell middens.[6]


CONFESSIONARIO
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na, y Timuquana Con algunos con-
ſejos para animar al penitente.
(*)
¶ Y aßi miſmo van declarados algunos effectos y
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los padres confeſſores ſepan inſtruyr al peni-
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¶ Ordenado por el Padre Fr. Fran-
ciſco Pareja, Padre de la Cuſto-
dia de ſanta Elena de
la Florida.
¶ Religioſo de la Orden de nueſtro Seraphico
Padre ſan Franciſco.
¶ Impreſſo con licencia en Mexico, en la Em-
prenta de la Viuda de Diego Lopez
Daualos. Año de 1613.

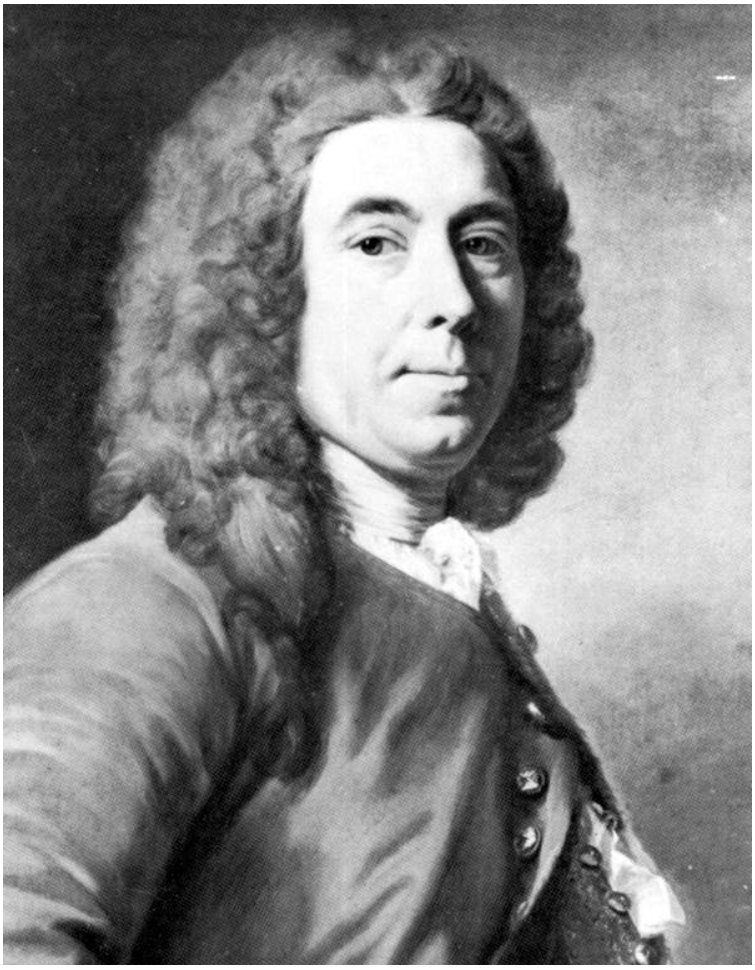
The First Spanish Period (1565-1763)

The arrival of Europeans to Northeast Florida in 1513 dramatically shifted the lifeways of Native Florida groups. Spain sought to establish a strong foothold in the Americas through the creation of settlements and control of the existing population. By the mid-17th century, there were roughly forty missions throughout Northeast Florida.[7] One of these missions, called Nuestra Señora de Guadalupe de Tolomato, existed within the boundaries of the present day GTM Research Reserve.[8]

The Tolomato mission first appeared in the historical record in 1675 and is believed to extend into what is today known as the Wright's Landing site.[9] While this mission was destroyed in 1702, it has been hypothesized

that it was rebuilt in the same location in 1717, though no conclusive evidence has been found.[10] Notably, a mission and cemetery by the same name was later incorporated within St. Augustine's city boundary, a site which is now known as the Tolomato cemetery.

The signing of the Treaty of Paris in 1763, which placed Florida under British control, officially ended the First Spanish period, and with it, the era of missions in Florida.



The British Period (1763- 1784)

In 1768, the first British Governor of East Florida, James Grant, bought a 1450-acre plot (now part of the GTM Research Reserve) and sought to transform it into a thriving indigo plantation. To do so, Grant enlisted the labor of enslaved individuals from South Carolina, Georgia, and West Africa. In creating the plantation, Grant slowly cleared the land, with cultivation beginning at the southern end of the peninsula and slowly moving northward. In addition to indigo cultivation, work at the plantation introduced several nonlocal flora and fauna to the area,

including poultry, hogs, cattle, horses, corn, peas, potatoes, and sweet potatoes. These crops were grown in large planting fields and enabled the plantation to become self-sufficient by 1769. Recorded structures dated to this period include drainage ditches, enslaved housing, and roadways.[11]

In 1771, Governor Grant returned to England, leaving the site in control of Alexander Skinner, the plantation's overseer. Skinner continued to run the plantation until Britain ceded control of East Florida in 1784. When the province returned to Spanish control, the plantation was disbanded, with the enslaved laborers sold to rice planters in South Carolina.[12]

Minorcan Presence

Near the end of the British period, another group made their mark on the landscape: a people known collectively as the Minorcans (alternatively spelled "Menorcans"). Many of these “Minorcans” were not from the island of Minorca at all, but hailed from several different countries throughout the Mediterranean.[13] Before arriving on the lands making up the GTM Research Reserve, this group worked as indentured servants on a plantation in New Smyrna, some 75 miles south of present-day St. Augustine. The plantation itself was not successful, and an estimated 40% of the plantation population died within its first two years.[14] Conditions were so poor that the governor of East Florida, Patrick Tonyn, agreed to cancel the indenture contracts of those who reached St. Augustine. In response, many of the colonists fled to the city, where they settled in its north sections, near Fort Mose, and on the lands that later became the GTM Research Reserve.[15]

Perhaps the most well-known Minorcan settlement at the GTM Research Reserve is located at Shell Bluff Landing, where a coquina block well overlooks the Intracoastal Waterway.

Homesteading

According to land grant information from the Second Spanish (1783-1821) and American Territorial (1821-1845) periods, the land changed hands several times. During these periods, the land appears to mainly have been used as family farms or homesteads, which in many cases, seem to have been passed down through families. For instance, members of the Sanchez family, who were initially granted land as part of the Minorcan colony, appear in several later documents as landowners or claimants.[16]

Today

As a 76,760-acre reserve area, the GTM Research Reserve offers visitors and locals alike a glimpse into Florida's natural landscape, virtually untouched by human development since its purchase by the state of Florida in 1984.[17] Every day, hikers, bikers, equestrians, kayakers, and fisher people enter into the reserve to utilize its abundance of natural resources. However, the land is not only used recreationally. As one of only 30 research reserves in the US, scientists, including biologists, chemists, and even archaeologists, make their mark on this landscape as they study the flora, fauna, and past of the reserve. [18]

Learn more about the Reserve here

The Sites

There are over 30 sites recorded for the GTM-Research Reserve, with more found every day. While monitoring and recording occurred at nearly every site at the NERR, many of our efforts concentrated on coastal zones and erosional edges. Our work focused on several major sites. Read on to find out more about each.

Shell Bluff Landing

Shell Bluff Landing has been occupied by humans for about 6,000 years, with components ranging from indigenous usage to a Minorcan plantation (1784-1821). Today, this site is a prime example of impacts from human development, environmental shifts, and climate change. In recent years, impacts from hurricanes and storms have caused the shoreline to become unstable, so park staff have closed part of the area to foot traffic to protect the environment and visitors. Our work at this site has included shoreline monitoring and 3-D modeling of landscapes and artifacts. To learn more about these methods, visit the Work Done section below.

Wright's Landing and South of Wright's Landing

Much like Shell Bluff Landing, Wright's Landing and South of Wright's Landing are known as multi-component sites, meaning that they were utilized by various groups for multiple purposes throughout history. Wright's Landing and South of Wright's Landing contain shell midden and associated artifacts that indicate occupations as early as the Late Archaic Period (approximately 5,000 years ago). Further, the presence of post-contact and European pottery types suggests later occupations which may have included an indigenous village site during the St. Augustine period, which spanned from 1564 to 1763, and a Spanish mission known as "Nuestra Señora de Guadalupe de Tolomato".[19]

As coastal sites, Wright's Landing and South Wright's Landing are both vulnerable to shoreline erosion from climate events and boat wake. In 1985, one report estimated that about 50% of the area initially identified as part of the site has been lost to shoreline erosion.[20] In an effort to combat this loss, Wright's Landing was also the site of the Living Shoreline

Restoration Project in 2014.[21] Today, the shoreline continues to shift as it erodes.

Little Orange

On the other side of the peninsula lies another site with a long history of human occupation, called Little Orange. This site includes a shell midden made up of small donax clam shells, a departure from other intact middens around the peninsula. Based on the ceramics found in association with the site, researchers have attributed it to the Orange Period, which occurred approximately 4,000 years ago.[22] Due to its location on the Guana River, erosion is much less severe than at other sites. However, the midden is inundated with marsh grasses, and has been home to hogs, which damage the site, for a number of years.

The Work Done

Under the People of Guana grant, archaeologists with the Florida Public Archaeology Network worked to address two main questions: first, how did various groups in the past utilize the landscape and its resources? Second, how has landscape and resource use changed over time? To consider the first question, non-invasive field methods were utilized. These included shoreline mapping, landscape photogrammetry, 3-D modeling, site monitoring, and historical research. In addressing the second question, we relied on community surveys and field observation. All of these methods will be described in this section.

Shoreline Mapping

FPAN Staff mapping the shoreline of the Wright's Landing site in 2022.

In order to visualize and record erosion, the team mapped the coastal shorelines of eleven archaeological sites within the study area. The shoreline was determined by observing the uppermost erosional edge whenever possible, or, in areas with less defined edges, the highest presence of marsh grasses, sediments, or plants. This definition of the shoreline allowed the team to track average rates of marsh or wetland inclusions in and around archaeological sites and ascertain the extent of intact archaeological resources.[23] In addition to creating a baseline erosional edge, the data from shoreline mapping can be compared to data from previous years. This is essential to understanding rates of erosion, identifying trends or patterns in shoreline changes, and predicting the future of vulnerable areas.

Terrestrial Scanning

Terrestrial scanning refers to the process of creating highly accurate 3-D models of entire sites. For this project, a FARO laser scanner was used to retrieve thousands of points of data, 340° around the laser itself, of each site visited.[24] The laser scanner was moved to different locations around the site in order to create a complete model. The photo below shows the arrangement of the laser scanner at Shell Bluff Landing. The white

spheres illustrated by the photo are used to align the scans as the laser is moved along the site. At this stage, photographs are also taken of the site to aid in alignment and add further color and texture to the model.

Laser Scanning at Shell Bluff Landing, October 2022

After scanning, the images are transformed into a point cloud, or a digital facsimile of the 3D data points collected.[25] This point cloud can then be utilized in software such as RealityCapture to create 3D models, which act as ideal educational aides for those wishing to explore the site. The 3D model below, which was created using laser scans of Shell Bluff Landing from October 2022, allows users to interact with the site, even though the actual space remains closed to visitors.

Shell Bluff Landing, October 2022

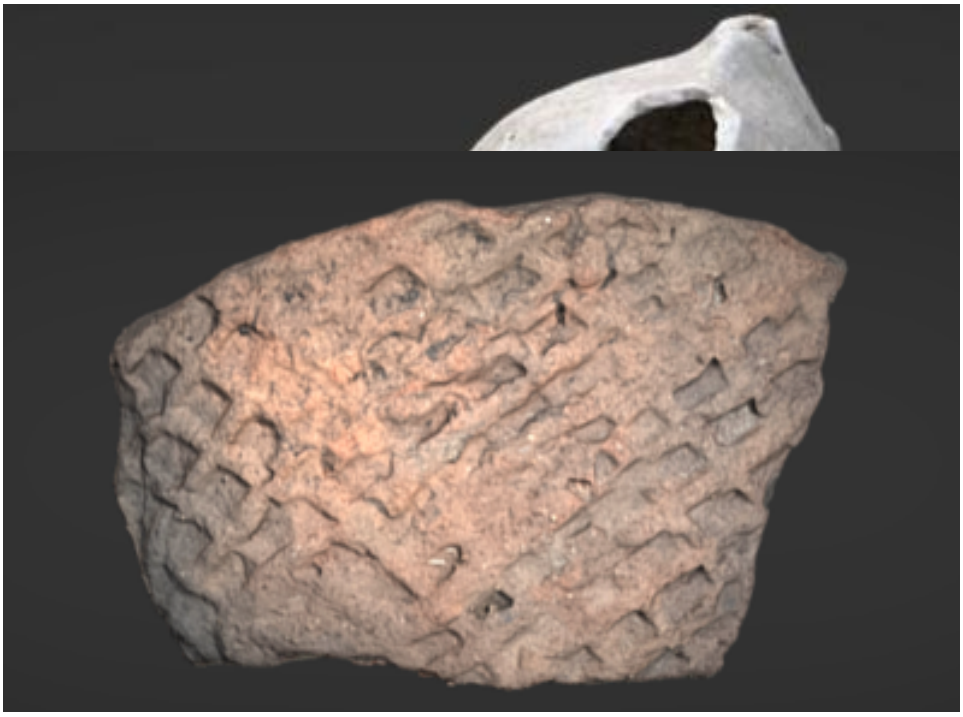
Apart from generating excellent educational resources, the models are important records of these sites. As accurate representations of the site on the day that they were scanned, the models can tell researchers much about the state of the site in recent years. Further, in the future, these models could be compared to the site itself to better illustrate any changes that may have occurred due to climate events or development. Overall, the models created through terrestrial scanning are essential resources for education, research, and monitoring.

"Catch and Release" 3-D Modeling

Much like terrestrial scanning, artifact photogrammetry creates digital 3D models. Photogrammetry refers to the process of using a compilation of overlapping photographs from multiple camera angles to create a 3-D image of an object.[26] In this project, we utilized photogrammetry methods to create a digital collection of artifacts from Shell Bluff Landing, Little Orange, South of Wright's Landing, and Wright's Landing. During surveys or monitoring trips to these sites, diagnostic or otherwise unique artifacts found on the surface were selected or "caught" for modeling. The project team arranged a mobile station, composed of a lazy Susan turning tray, a camera and tripod, a photo scale, and a photo board, where each artifact was photographed at every 10° rotation. After photography of the object was complete, it was "released" to its original location.[27]

FPAN staff working with field photogrammetry equipment to create 3-D artifact models.

The images were then uploaded and aligned using RealityCapture. Each model was given texturize and uploaded to SketchFab with object descriptions and background information. The models were all curated into the People of Guana Collection.



A sample of 3-D artifact models created for the project.

In total, 73 artifacts were documented. This included 9 objects from Wright's Landing, 59 from Shell Bluff Landing, 2 from South of Wright's Landing, and 3 from Little Orange. The artifacts included lithic flakes, indigenous ceramics, shells, glass, historic ceramics, metal objects, and pipe fragments, representative of all known cultural periods at the GTM Research Reserve.[28]

To view the models, click here!

Site Monitoring with HMS Florida

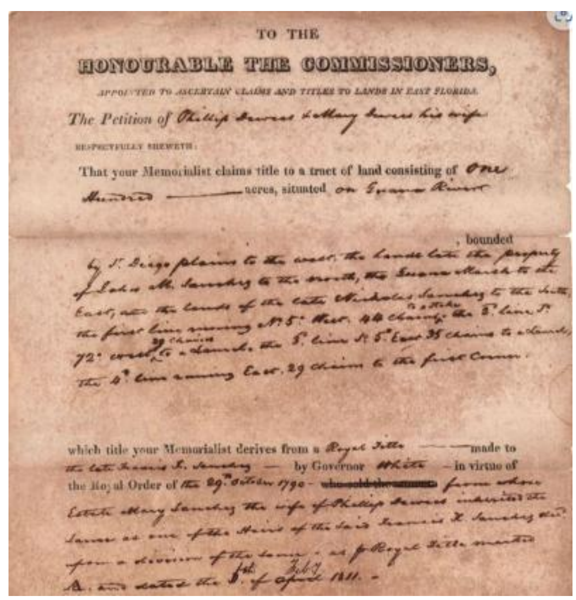
The Heritage Monitoring Scouts (HMS) Florida program trains citizen-scientists to actively monitor archaeological sites and historic resources. As members of the community where these sites are located, HMS Florida volunteers often have a vested interest in preserving these resources. Volunteers are trained in monitoring protocols and are assigned select sites within their region, which they are encouraged to visit on a regular basis to assess any changes or damage to the space. After visiting a site, scout observations and photographs are entered into the Arches database.[29]

FPAN Staff train GTM Research Reserve volunteers as HMS Florida Scouts

The current project utilized HMS Florida protocols and the Arches database to monitor twenty-six sites. FPAN staff, land managers, and GTM Research Reserve volunteers interested in the program visited these sites and recorded their condition before uploading artifact and overview photographs to the Arches database, which may act as a digital record of overall site conditions throughout the project time frame.

Historical Research

In order to contextualize the archaeological components of the project, background research was also undertaken. This included trips to the St. Augustine Historical Society Research Library and to online databases such as the State Library and Archives of Florida. Further, information about the archaeological background of the study area was accessed through the Florida Master Site File, a database run through the Florida Department of Historic Preservation. Our findings made it possible to create outreach and education materials, particularly the project audio tour, which informs visitors to the GTM Research Reserve about the area's cultural history. This background research was


TO THE

HONOURABLE THE COMMISSIONERS,

APPOINTED TO ASCERTAIN CLAIMS AND TITLES TO LANDS IN EAST FLORIDA.

The Petition of [illegible]

RESPECTFULLY SHEWETH:

That your Memorialist claims title to a tract of land consisting of One Hundred ——— acres, situated on [illegible] River

, bounded [illegible]

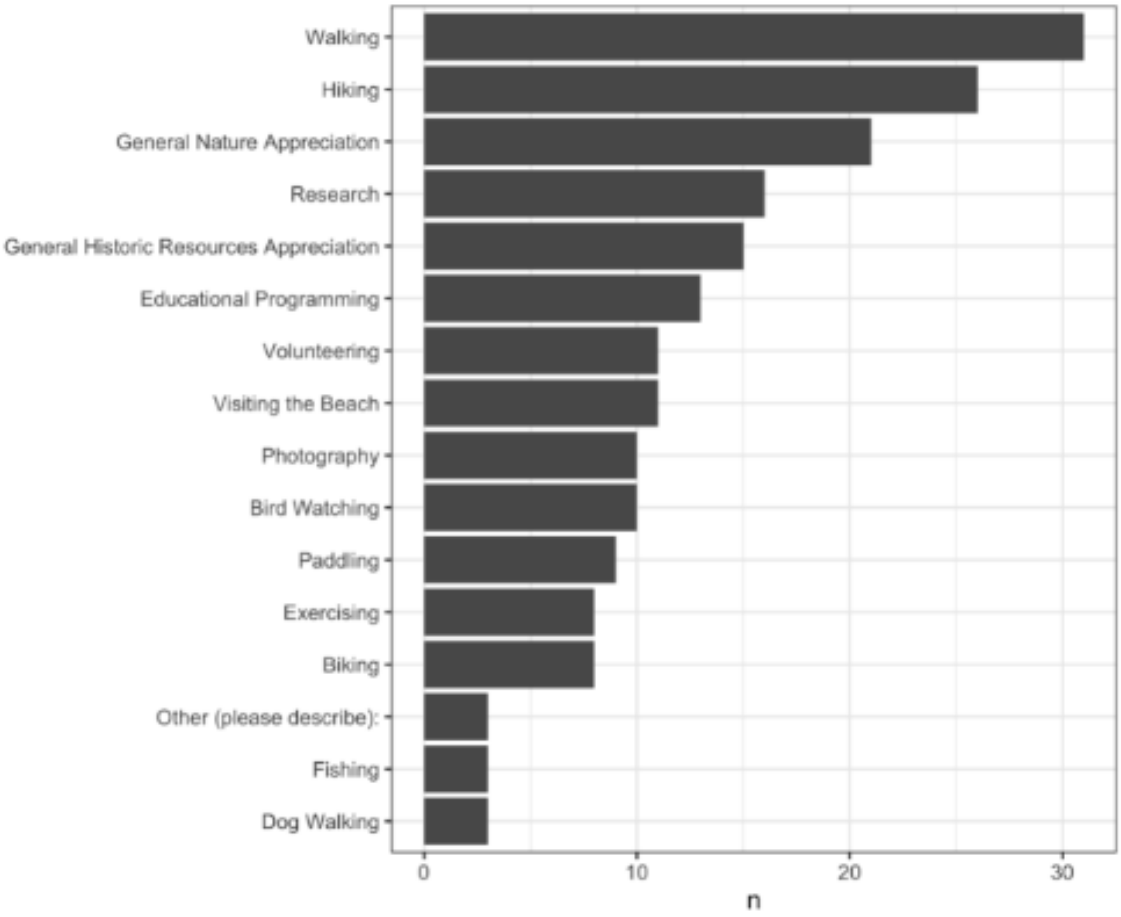
which title your Memorialist derives from a Royal Title ——— made to [illegible] — by Governor White — in virtue of the Royal Order of the 29th October 1790 [illegible]

Screen Capture of an 1825 land grant, where the Dewees' claim 100 acres along the Guana River.

also central to tracing historic land ownership, and understanding individual sites, their artifacts, and their history.

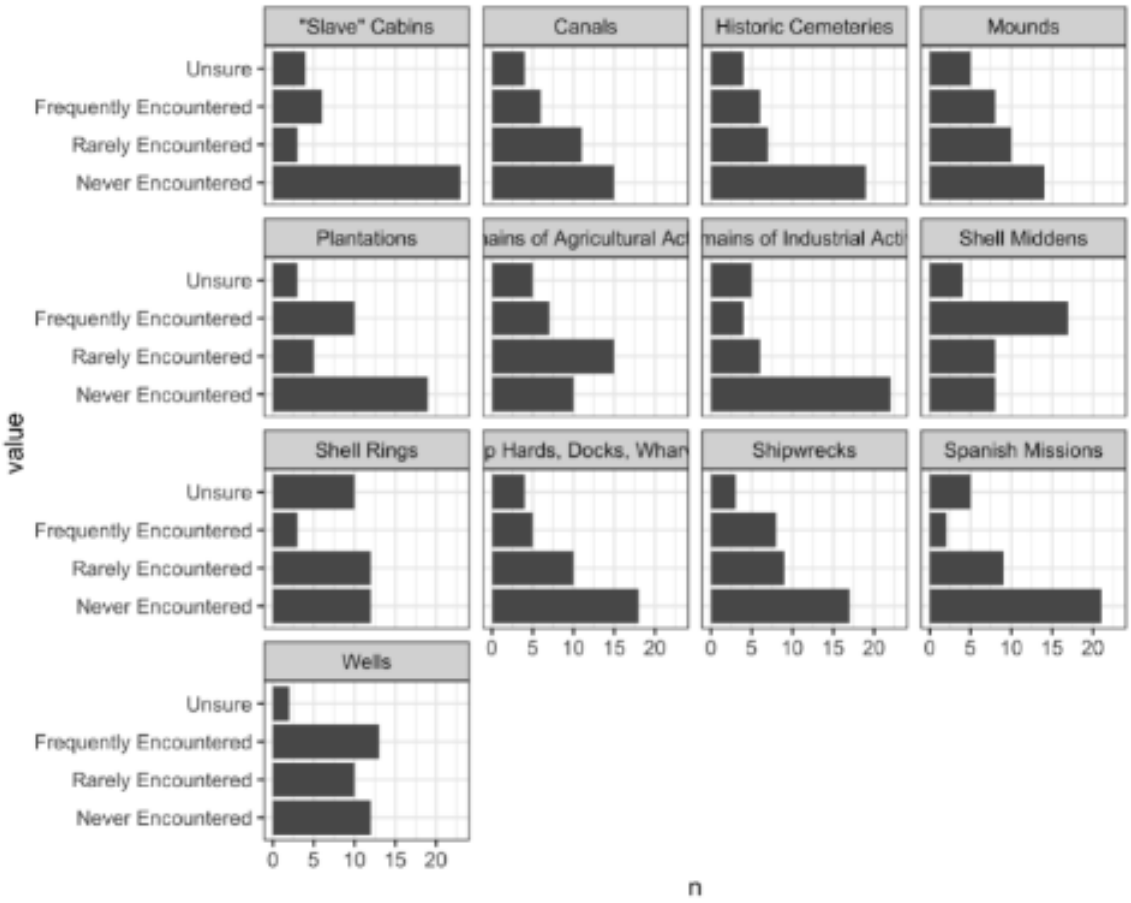
Community Surveys

In order to better understand how current community members interact with the GTM Research Reserve, and the archaeological and natural resources within it, a 64-question survey was designed in partnership with researchers at the University of Washington. This survey had two main goals: first, to consider how people today use the landscape, and to evaluate community connections to its sites; second, to understand how community members envision the future of the space.[30] To gather responses, team members brought the survey, in the form of cards printed with a QR code, to several outreach events, where they hoped to attract a diverse range of stakeholders. Overall, 48 people responded to the survey.[31]



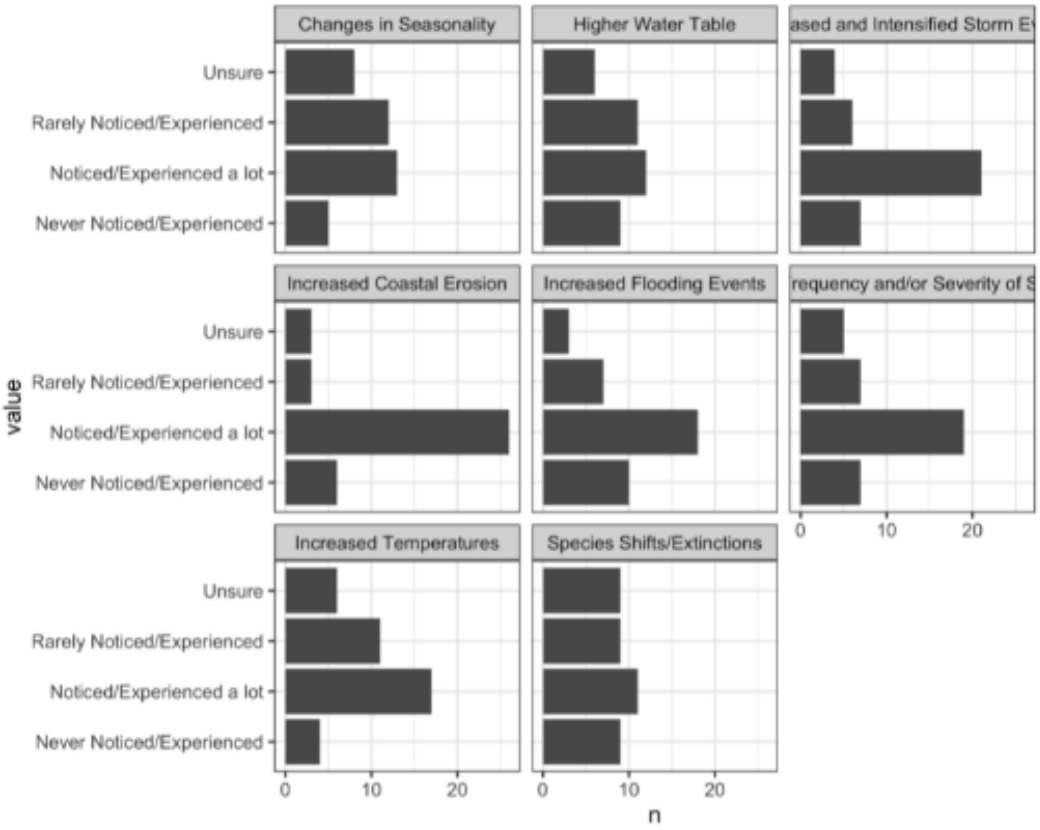
Current Landscape Usage

Regarding the first goal, the survey found that most people visit the GTM Research Reserve to take part in activities such as walking, hiking, and nature appreciation. The three most common activities focus almost exclusively on the natural landscape and its resources, though approximately 12 people also claimed to visit the reserve for its historical resources.[32]



Connections to Cultural Resources

The survey also questioned visitors' familiarity with the different types of cultural resources found at the GTM Research Reserve. Of the cultural resources listed, respondents seemed to remember encountering wells, such as the iconic Minorcan well at Shell Bluff Landing, and shell middens, which are scattered around the peninsula, most frequently.[33]



Future Threats

In response to the second goal, the majority of respondents note an increase in coastal erosion, flooding, and storm events at the GTM Research Reserve. When questioned about the biggest threats to the landscape, respondents generally ranked sea level rise, development, flooding, and storm events as the biggest threats to the area's cultural resources, though these results are less uniform.[34]

Outreach

In addition to the team's efforts in the field, the project also emphasized community engagement. To contribute to community conversations regarding the GTM Research Reserve, FPAN staff worked to create outreach materials and prepare events that included communities with vested interest in the project and landscape.

Community Partnerships

Engagement with descendant communities and others with an interest in the history of the GTM Research Reserve is an essential part of the project. Collaboration in the form of face-to-face conversations, emails, phone calls, and meetings with representatives from the Gullah Geechee Cultural Heritage Corridor Commission (GG CHEE) allowed the team to better understand Gullah Geechee heritage and culture, especially in relation to Northeast Florida. These conversations also led to strong partnerships, which we hope to continue to cultivate in the future.

Rep. Glenda Simons-Jenkins and project staff presenting a poster about Gullah Geechee heritage at the 2023 State of the Reserve Conference

Outreach events, such as the Gullah Geechee Heritage Festival, Community Conversations about Heritage at Risk, and the Resilience Festival also offered ideal moments to connect with the public, glean insights into community ties to the landscape, and increase awareness of the space and its myriad resources. In doing so, the team was better able to understand current landscape usage and local knowledge about the history of the GTM Research Reserve.

The Audio Tour

FPAN staff also designed and created an audio tour for the project area. Spanning four trails, the audio tour aims to provide visitors with stories of the people who toiled - or thrived - at the GTM-NERR in different

historical periods, from indigenous occupations dating back to the Pre-Contact era to the scientific research conducted today. The tour was conceptualized to fit the existing trail system, offering visitors a chance to learn about a different time period for each trail. To enjoy the audio tour, visit the link below!

Takeaways

The People of Guana project was successful in many ways. First, through a combination of non-invasive archaeological methods and historical research, the project was able to meet its goal of studying the previous iterations of the landscape. The project was also successful in monitoring and documenting changes in archaeological sites due to erosion, boat wake, and sea level rise. With the models created through terrestrial scanning and the information gathered through shoreline mapping and site monitoring, we hope to better understand future climate impacts to sites of cultural heritage. Further, in creating models, we have also taken the first step in mitigating any damage to these important spaces. Lastly, the project also addressed the goal of understand current uses of the landscape. The Stakeholder Survey allowed members of the community to share their experiences at the GTM Research Reserve, as well as their hopes for its future. Understanding modern usages of the land allows us to tell the stories of the people of Guana, from past to present, more accurately.

In the Future

We hope to build on the foundational knowledge and methods generated through this project. For instance, more systematic testing of known archaeological sites, and the spaces in between them, could only increase our knowledge of past lifeways at the Reserve. We also hope to collaborate more with community partners, including descendant communities of those that may have lived and worked in the peninsula historically. In integrating and uplifting community voices, we can better understand the importance of this landscape. It is our hope that the current project, and any future work building upon it, allows us to gain more insight into the past - and the future - of the GTM Research Reserve.

Credits

We would like to thank the National Estuarine Research Reserve System Science Collaborative and their staff, Meaghan Brass and Jen Read, for funding the project. Further thanks to Lia Samson, Kaitlyn Dietz, Abby Kuhn, Candace Killian, and the entire staff of the Guana Tolomato Matanzas National Estuarine Research Reserve for partnering and supporting this work. We would would also like to thank the People of Guana project team who gave their time, expertise, and guidance, including Lindsey Cochran, Meg Gaillard, Rep. Glenda Simmons-Jenkins, Ted Johnson, Ben Marwick and Dionne Hoskins-Brown. Additional thanks to Bart McLeod and Adam Cox for their technical expertise.

Endnotes:

Endnote number	Source
1	Cochran, Lindsey. 2023. "Sea Level Affecting Marshes Model of the Guana Tolomato Matanzas National Estuarine Research Reserve (GTM NERR)." Unpublished report.
2	Miller, James. 1998. *An Environmental History of Northeast Florida*. Ripley P. Bullen Series. Gainesville: University Press of Florida.
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4	Newman, C. L., & Weisman, B. R. 1992. "Prehistoric and Historic Settlement in the Guana Tract, St. Johns County, Florida." *The Florida Anthropologist*, *45*(2), 162–171.
5	Hann, John H. 1996. *A History of the Timucua Indians and Missions*. Ripley P. Bullen Series. Gainesville: University Press of Florida.

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16 United States. Board of Land Commissioners. *Dewees, Philip & Mary*. State Archives of Florida, Florida Memory

17 *National Estuarine Research Reserves - Guana - Tolomato - Matanzas*. Florida Department of Environmental Protection. (2023). https://floridadep.gov/rcp/nerr-gtm

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20 Tesar, Louis, and Henry Baker. 1985. Guana River Tract Site Location Survey. Report on file with Florida Master Site File.

21 *Wrights Landing*. Florida Living Shorelines. (2019, January 3). https://floridalivingshorelines.com/project/wrights-landing/

22 Miller 1998, 70-76.

23 Miller, Sarah E, Kassie Kemp, and Emily Jane Murray. 2021. "Heritage Monitoring Scouts: Assessing Archaeological Sites at Risk." 1A-46 Final Report. Tallahassee: Florida Division of Historical Resources.

24 Murray, Emily Jane. 2023."Using 3D Digital Heritage Techniques to Document Heritage at Risk: A Case Study from Florida." Historical Archaeology, In Press.

25 Ibid.

26 Ibid

27 Miller, Sarah E, Kassie Kemp, and Emily Jane Murray. 2023. "People of Guana: Tracking Heritage at Risk through Monitoring, Mapping and 3D Documentation at the GTM Research Reserve, Ponte Vedra Beach, FL" 1A-46 Final Report, unpublished.

28 Ibid.

29 Florida Public Archaeology Network. *HMS Florida*. https://hms.fpan.us/about

30 Marwick, Ben, Aoife Campbell-Smith, and Kavya Shrikanth 2023 “Report of the Guana Tolomato Matanzas National Estuarine Research Reserve Stakeholder Survey,” Unpublished report.

31 ibid

32 ibid

33 ibid

34 ibid

People of Guana Audio Tour Script Draft

**This script is a draft created for the grant project and will not be available as an audio tour until it is reviewed by the GTM Research Reserve and associated parties.*

Stop #1: Welcome and Overview

Location: Trailhead 1
Time: 1:44 min
Sample Recording: Summer Narrator

Welcome to the Guana Tolomato Matanzas National Estuarine Research Reserve. Here, you'll encounter a vast and vibrant oasis teeming with life. Amongst the salt marshes and mangroves, tidal wetlands, maritime forests, estuarine lagoons, and upland habitats, that constitute the 76,000 acre conservation area, lies a prolonged and multifarious history of the people who have called this landscape home.

As you make your way through the variety of trails the GTM Research Reserve has to offer, tune in to our self guided audio tour to learn all about the cultural, historical and environmental past and present of the Reserve. Meant to generate a reinvigorated connection to the landscape, this tour's sensory narrative interweaves the past, descendant knowledge, and current climatic threats this space faces, providing a unique interpretation of the people of Guana's story.

Swing on by the trailhead to snag a map with marked stop locations or scan the QR code at the entrance to access virtually. Each trail offers a unique glimpse into the past, with the yellow trail centered on the land's earliest occupants: the Timucua people and their ancestors; continue through time on the purple trail to hear tales from British East Florida, head on over to the red trail to discover additional unique facts pertaining to the landscape, or choose the orange trail to learn more about modern communities entangled with the peninsula. No matter which trail you choose today, adventure awaits at the GTM Research Reserve.

Stop #1: Stained in Blue: Introduction to Plantation Development in 17th Century British East Florida

Location: Purple Trail
Time: 1:35 min
Sample Recording: Jillyan Corrales Narrator

The abundance of dense oak canopies and labyrinth of saw palmettos that line the trails and speckle the grounds of the GTM Research Reserve have become familiar features of this tranquil Floridan landscape. However, just a few centuries ago, this land would have looked radically different. The path you walk along today weaves through terrain that was once home to

a bustling plantation that would soon become the single most profitable producer of indigo in the region.

Follow along as we take you on a journey back to late 18th century British East Florida, where then-Governor James Grant established himself as the first major agricultural agent for the state. With the formation of his plantation, deemed “Grant’s Villa”, James Grant forever transformed St. Augustine’s frontier from one primarily established as a military outpost to one rooted in agriculture. This storyline will guide you through the wealth and politics in British-era Florida, the grueling and labor intensive growing and processing of the indigo plant, and the lifeways at the Villa. The people you will encounter along the way include Governor James Grant and his confidant Alexander Skinner, the seventy enslaved black men and women residing and working on the estate, and the indentured Minorcan settlement that relocated to the plantation at the eve of the British period.

Stop #2: British East Florida and the Treaty of Paris

Location: Purple Trail
Time: 1:08 min

Pen to paper, Britain officially took over control of Florida from Spain in 1763. Upon the signing of the Treaty of Paris, both the Seven Year War and the Spanish occupation that had spanned over two centuries had come to an end. The tropical peninsula was split into two districts, East and West Florida. St. Augustine was selected as the capital of the eastern region and Pensacola as the western capital. The Spanish population that had long resided in St. Augustine fled Florida, leaving it virtually abandoned by the time British forces arrived on its sandy shores.

James Grant, the newly established Governor of East Florida vigorously began making efforts to repopulate the ghost town with the promise of land in exchange for development. His actions, as such, would forever alter the economic fabric of East Florida, as he transformed a military dominion to a plantation system. British rule would last a mere twenty years, before Spain regained control in 1781 as part of the peace treaty of the American Revolution.

Stop # 3: James Grant and Plantation Life at The Villa

Location: Purple Trail
Time: 2:07 min

In 1768, the newly appointed British Governor of East Florida, James Grant, bought a 1450-acre plot located within the bounds of what is now part of the GTM Research Reserve. He sought to transform it into a thriving indigo plantation and prospective British land owners

followed suit soon after. Little did Governor Grant know, his plantation, deemed “The Villa” would become an incredibly profitable producer of indigo and later rice, its success single handedly built upon the backs of the seventy enslaved individuals working on its grounds. Grant enlisted the labor of these enslaved people from South Carolina, Georgia, and West Africa. In creating the plantation, the land was cleared, with agricultural fields beginning at the southern end of the peninsula and slowly moving northward. In addition to indigo cultivation, work at the plantation introduced several nonlocal flora and fauna to the area, including poultry, hogs, cattle, horses, corn, peas, potatoes, and sweet potatoes. These crops were grown in large planting fields and enabled the plantation to become self-sufficient by 1769.

In 1771, struck by a debilitating fever, Governor Grant returned home to England, leaving the site in control of Alexander Skinner, the plantation’s overseer. He would never again set foot on Florida soil, leaving Skinner to operate the plantation until Britain ceded control of East Florida in 1784. When the province returned to Spanish control, the Villa was disbanded, and the enslaved laborers were sold to rice planters in South Carolina.

Stop # 4: On Indigo: A Dark Past of Blue Gold
Location: Purple Trail
Time: 2:06 min

The alluring blue dye that is derived from the indigo plant has long captured the eye of all those who bear witness to its bold hues. With its origins beginning in India and quickly expanding globally, it possesses a history as dark and expansive as the very color it produces.

European society fell for its rich and vibrant hues in the 18th century, and indigo found itself at the center of the transatlantic trade system, where slaves were forced from West Africa into the Indies and the Americas to grow the treasured plant. Almost overnight, indigo would become the most sought-after crop on the market. The subtropical bush, referred often to as ‘Blue Gold,’ created a bountiful economy in Eastern Florida and the greater South, lining the pockets of plantation owners while subsequently enslaving thousands.

The trails you walk today weave through a landscape that was once home to the most profitable indigo plantation in the region, known as “Grant’s Villa.” Through the enlistment of sixty-nine enslaved Africans, the 1,450 acre tract was cleared, indigo seeds were planted and the laborious and time-consuming cultivation and processing of these bristly plants ensued.

The extraction process involved six sets of three large vats where stems and leaves were submerged in a combination of water and urine to ferment. The stench was so foul and vapors so toxic, that the location of production was placed far from any dwelling. The putrid liquid required constant tending as it transitioned into a thick blue and bubbly mixture before being

scraped out and hung in cloth to dry. The indigo hardened and was cut into bars to ultimately be exported back to Britain.

You may still find the highly desired plant growing wild through the expanse of the Reserve.

Stop # 5: The Migration of the New Smyrna Minorcan Settlement to East Florida

Location: Purple Trail
Time: 3:48 min

By the end of the Spanish period, the Florida region had been almost entirely abandoned, leaving a desolate landscape after the implementation of the Treaty of Paris. Following the mass exodus of citizens, the British government aggressively began to recruit new settlers into East Florida in an attempt to create a profitable agricultural empire. During this period, Dr. Andrew Turnbull, a Scottish physician, was granted approximately 60,000 acres of land, to establish an indigo plantation in New Smyrna, located approximately 70 miles south of St. Augustine.

Turnbull, concerned about the number of enslaved people in the colony, turned to the Mediterranean in search of cheap labor, ultimately enlisting 1,403 individuals on the promise of a better life. Though the group that made their way to Florida with the Scottish physician is commonly referred to collectively as the "Minorcans", the multicultural settlers were sourced from Turkey, Greece, Italy, France, and Minorca in the Balearic Islands.

On April 17, 1768, Turnbull assembled the prospective laborers, many of which signed indentured servitude contracts, and set sail for New Smyrna. Along the voyage, 148 people lost their lives to scurvy and illness, a dark omen for the upcoming years. Upon arrival, New Smyrna colonists were faced with further grueling conditions, including little to no shelter or clothing, scorching heat, an insufficient food supply, disease and cruel treatment. Without adequate provisions, nearly half of the initial population would succumb to disease and malnutrition within its first two years of operation.That number would continue to climb over the next nine years.
Patrick Tonyn, the governor of East Florida, had caught wind of the brutal conditions, extreme adversities and maltreatment that was occurring on the New Smyrna plantation and agreed to cancel the remaining indenture contracts and provide the settlers with safe haven in St. Augustine.

In 1777, the 600 colonists, much smaller in number since their initial arrival, fled en masse, completing the 75 mile voyage to St. Augustine where they were granted asylum and land upon arrival. The Minorcans settled in the northern area of the city and on the very landscape

you see before you, along the North and Guana rivers that weave their way through the trail systems of the GTM reserve. Over the next few centuries, the close-knit Minorcan settlement would soon fully integrate themselves into the town of St. Augustine, becoming vital members of the community as strong fishermen, merchants and farmers. Descendants of this resilient community still remain within St. Augustine today, their rich and abundant culture very much infused within the heart of the city and along its shorelines

Perhaps the most well known precedent of the Minorcan settlement here at the GTM Research Reserve is located at Shell Bluff Landing, where a coquina block well overlooks the Intracoastal Waterway.

Stop #1: Introduction to Early Timucuan Occupation
Location: Yellow Trail
Time: 1:30 min
Sample Recording: Jillyan Corrales Narrator

Speckled across the expanse of the GTM Research Reserve, the ephemeral remains of once extensive indigenous activity lie underneath your feet. For nearly 6,000 years, this compelling landscape has enchanted people both past and present. From the tranquil, glistening waters of the Guana River to the vibrant upland maritime hammocks, this terrain beckons to all those that listen. When the Europeans arrived in Northeast Florida, they found an intricate society made up of people that they later referred to as “Timucuans”. Today, only stories and artifacts remain of Florida’s first people.

While it may seem as though no physical trace of the Timucua people - nor their ancestors - remain, their stories prevail in archaeological contexts. From Archaic period shell rings and middens to an early 18th century Spanish mission, the land that is now known as the GTM Research Reserve has a storied past, interwoven into the very fiber of the landscape. As you travel along the winding pathways of the yellow trail, keep in mind the many feet that may have walked the landscape before you. Informed by the archaeological record, as well as historical documents written by Europeans who met with the Timucua people, we strive to bring into focus echoes of indigenous voices and lifeways. Listen along as we take you on a journey back through Florida’s (pre)history.

Stop #2: Walking in the Footsteps of Florida’s First People A Time
Location: Yellow Trail
Time: 1:51 min

As you wander through these winding trails, take note of the immense natural beauty before you. The marsh grasses, pine forests, oak canopies, and coastal edges of the landscape teem with plant and animal life, creating a resource-rich haven ideal for human occupation. It is no wonder, then, that people have been drawn to the bountiful beauty of this space for the last 6,000 years.

Our story begins in the Late Archaic Period, some 5,000 years ago. Though many eras, and land usages, separate us from this time, the climate and environment of the Late Archaic period generally mirrors what you may experience around you today. And, much like today, people flocked to the rivers' edges to enjoy this temperate climate and abundance of foodways. What little we know about these first Floridians, and their life within this landscape, comes from the things they left behind, including shell middens and shell rings, mounds, and even some early pottery and tools. Having withstood centuries, these artifacts and sites, though scarce, have allowed scholars to deduce that the peninsula may have been a hub of indigenous activity, and in later periods, permanent settlement.

Though it is clear that people hunted, fished, worked, and lived on this land for centuries, we know more about the most recent indigenous group that utilized this landscape than any other. This group, known today simply as the Timucua people, were one of the first encountered, and recorded by, European explorers, allowing researchers today to study both the archaeological materials remaining from their occupation, and the historical accounts made by Europeans visiting Northeast Florida. While these early records are undoubtedly colored by biases - both calculated and unconscious - they provide essential glimpses into Timucuan lifeways. By blending archaeology and history, scholars come closer to understanding the peoples of the past. Tune in throughout your journey today to learn more about the lifeways of the Timucua people and the things they left behind.

Stop #3: Timucuan Folklore and Animal Connection

Location: Yellow Trail
Time: 2:00 min

Take a moment to tune into the natural symphony that surrounds you as you make your way through the Reserve. The melodies of warblers and blue jays overhead, the soft creaking of towering oaks and palms as they sway to the tune. Perhaps, you take note of the scuffling coming from within the underbrush as unsuspecting armadillos forage for insects, or if you're lucky, hear the soft hoot of a lone owl in the distance.

Just as you bask in the sights, sounds and smells that this natural landscape has to offer, so did the early people that resided here centuries ago. Much of their culture, religious ideology

and ways of life were tied directly to the land and its inhabitants. The animals that occupy this subtropical sanctuary in particular, played vital roles in their religious ideology and folklore.

Stories, myths, legends, cautionary warnings and ancestral histories passed down through oral retelling and performances offer a glimpse into the cultural legacy and traditions of the Timucua people. The elusive owl was considered to hold special significance, possessing multiple meanings. Hearing the haunting cry of an owl was an indication of ill fortune or death or respite from it. Blue Jays and Woodpeckers were also thought to hold symbolism and omens. To interrupt and generate loud noises while a woodpecker sang was thought to bring about severe nosebleeds. On the other hand, listening to the entrancing tune of the Blue Jay signaled someone or something of great importance would arrive. Coming across a snake always gave signal to trouble ahead. Think about your own connection to the coastal landscape and wildlife you encounter today. Maybe you too, share stories and beliefs not unlike those of the first people.

Stop #4: Craft Production: Adorned with Moss: Clothing and Textile Production
Location: Yellow Trail
Time: 1:50 min

While the Spanish eventually laid claim to Florida, some of the first European explorers to create records of the Americas were actually French. In fact, some of the best-known and earliest accounts of the Timucua people come not from written records alone, but from the drawings of Jacque LeMoyne. LeMoyne, who visited Florida with French explorer Rene de Laudonniere in 1564, created artwork of the strange and fascinating sights that the so-called "New World" had to offer, from alligator hunts to indigenous villages. Though the original drawings did not survive an encounter with Spanish forces at Fort Caroline, LeMoyne later redrew his images, which were picked up by engraver Theodore De Bry and published in 1591. De Bry's engravings survive to this day, and offer important clues into early contact period foodways, society, and daily life.

Amongst the foliage and natural detritus surrounding you lies resources that may be hidden to the modern eye. In particular, the blue-gray Spanish moss dripping from tree limbs and creating patchwork shadows across the ground, so iconic to the Southeastern United States, offers far more than a beautiful background. In his carvings, De Bry showed indigenous women wearing skirts and fringes made from woven Spanish moss fibers, and other sources speak of its use to make strong rope, bedding, stuffing, and padding for a variety of purposes. To make these textiles, researchers believe that the plant, which often houses insects, was smoked over a fire before being woven into garments, retaining its natural silvery green hue and soft texture. To create a more durable thread or rope, the plant may have been left underground or suspended in water to kill it before it could be spun into useful - and oftentimes artistic - forms. Today, as you

continue your trek, remember that the natural resources adorning this fertile landscape may hold secrets to the past.

Stop #5: Foodways and Remedies
Location: Yellow Trail
Time: 1:26 min

Once ripe with a bounty of wild foods, early indigenous people spent their time foraging and growing crops here within the confines of the Reserve. Here, the intersection between food, traditions and a rich culture flourished. The shorelines of the Guana and North rivers were fished for mullet, catfish and the occasional alligator and its waters scoured for oysters and shellfish. The dense forests within the Reserve were once scouted for wild hog, turkeys and additional small game. Native to the area, acorns, hickory nuts, persimmons, blueberries and blackberries were gathered. The part time horticulturists grew maize, beans, pumpkins, gourds, cucumbers, citrons, peas and the root vegetable called “hassaz” which was used to make bread.

Amongst the foliage that surrounds you, you may spot a plant that has held a vital role in Timucuan history. Just as a morning cup of steaming hot coffee has become a common ritual in today’s society, the deep green leaves of the yaupon holly, a native plant to this area, were commonly steeped and drunk as a caffeinated ceremonial tea. Leaves would be toasted in jars known as ‘hollas’ over a fire and ground down into a fine powder. Boiling water was poured over the concoction and steeped. The drink, referred to as ‘ cassina’ by the Timucuans and ‘black drink’ by the Spanish, was thought to have medicinal and cleansing properties, and often acted as a purifying agent in ceremonies.

Stop #1: Tales from the Trails An Introduction
Location: Red Trail
Time:1:21 min
Sample Recording: Summer Brown Narrator

As you continue your trek south along the peninsula, keep an eye to the sky and an ear to the ground to unearth the secrets of the land surrounding you. Resting just beneath the surface lies a plethora of tales from the past. Spanning just over five miles, our excursion will offer glimpses of sandy beaches and sparkling waters through the swaying branches of live oaks, resplendent with Spanish moss. Between mounds and missions, the red trail offers a fresh perspective on all things GTM.

Unlike the more comprehensive storylines that comprise the rest of the Reserve’s trail system, your journey south will be peppered with tiny tales and fascinating facts. Along much of

its length, the trail intersects with several significant sites, including Sanchez Mound, Wright's Landing, and the Shoreline Restoration Project. As you travel between these long occupied spaces, take notice of transient moments of splendor on the trail surrounding you: the rustling of the undergrowth as armadillos search for vittles, or the brief relief from the bright sun as a great blue heron flaps its wings overhead. We invite you to take in these sights and sounds, and bask in everything that Florida's pristine landscape offers.

Who knows, you might be just lucky enough to bear witness to a passing critter, scuffling through the saw palmettos.

Stop #2: Mini Mounds, Massive Mounds and Mysterious Mounds! All Things Sanchez Mound

Location: Red Trail
Time: 1:35 min

Tracing back 6,000 years, the land in which you walk has been occupied and utilized by a variety of people. The large mound you see in front of you is just one of remnants of the prehistoric indigenous groups that called this peninsula home. It offers a glimpse into a dynamic social and ceremonial phenomenon that flourished within the dense oak forests of eastern Florida. These mounds were often considered as ceremonial landscapes, used for a variety of activities including feasts, funerals, rituals, and rites of passage. This particular mound, known as the Sanchez Mound was first recorded by Andrew E. Douglass, an astronomer, archaeologist, and father of dendrochronology, who visited Florida in the 1880s. The massive mound itself measures 3 m high, with a 22 m diameter base and a 10 meter diameter summit.

Mounds reveal valuable information about the past people who built and used them, offering a glimpse into past lifeways, religious ideology, foodways and cultural practices. As such, the protection and preservation of these sites are vital. Sites like Sanchez Mound are at risk due to human and natural threats. These include increasing climatic events such as storm surges, the willful destruction, looting and vandalism of cultural resources, and even burrowing animals, such as the endangered gopher tortoise and armadillo that live here at the Reserve.

Stop #3: Are These Trees in a Line? And Additional Non-Invasive Archaeological Work

Location: Red Trail
Time: 1:41 min

Shovel and trowel laden individuals covered in dirt and sweat, deep within perfectly trimmed rectangular units cut into the earth in search of artifacts, are often what first pop into the mind when the term archaeologist is uttered. However, the field of archaeology is much more than digging holes, and, as counterintuitive as it might seem, relies on noninvasive techniques to reveal the past.

The tools available within the field continue to expand as technology advances and these said advancements are changing how archaeology is conducted. Methods and tools used by archaeologists here at the Reserve include walking surveys, which can reveal unique features and provide information on the alteration of the landscape by past communities, ground-penetrating radar, lasers, and digital photographic techniques, like photogrammetry, that are often used to create three-dimensional and interactive images of sites and artifacts.
Even the patterns of vegetation can unveil hints about the past. As you make your way through the trail system, you may notice thick tufts of Guinea grass, a non-native, perennial bunchgrass brought to Grant's plantation from Africa during the late 18th century. Or perhaps you may stumble upon rows of palms and oaks that look eerily straight and intentional, which could suggest an area of past agricultural use or reveal remnants of roadways long absorbed back into the dense landscape.

Whatever trail you choose to venture, the dirt beneath your feet holds a bounty of clues about past settlements here at the GTM Research Reserve.

Stop #4: The Archaeology of Wrights Landing

Location: Red Trail
Time: 1:24 min

You have found yourself within the bounds of Wright's Landing and South of Wright's Landing. Both are considered multi-component sites and were utilized by various groups for multiple purposes throughout history. As such, the land before you has rich history pumping through its veins. Through historical written and physical evidence associated with these sites, it is revealed that occupations occurred as early as the Middle Archaic Period (approximately 5,000 years ago!). Furthemore, the presence of post-contact and European pottery types suggests later occupations, which may have included an indigenous village site during the St. Augustine period, which spanned from 1564 to 1763, and a later Spanish mission known as "Nuestra Señora de Guadalupe de Tolomato", which appears in the historical record as early as 1675. As coastal sites, Wright's Landing and South of Wright's Landing are both vulnerable to shoreline erosion caused by climate events and boat wake. In an effort to combat this loss, the Living Shoreline Restoration Project was implemented in 2014. To learn more about this ongoing restoration project, make your way to Stop #5.

Stop #5: The 2014 Living Shoreline Restoration Project

Location: Red Trail

Time: 1:20 min

Erosion is a growing threat to coastal areas and archaeological sites, which is further exacerbated by a combination of anthropogenic activities such as heavy residential and infrastructure development, and increasing climatic events like storm surges and rising sea level. In an attempt to combat the extent and severity of the problem, communities have often turned to forging seawalls and groins to shield shorelines. However, studies suggest these armouring techniques instead exacerbate the problem and have damaging effects on surrounding vegetation and wildlife over time.

The Living Shoreline Restoration technique offers a natural alternative that enhances coastal resilience by combining ecosystem engineers to create a more naturally protected and stable shoreline. A living shoreline is made up of natural materials like vegetation and oyster shell or rock, which aids in the reduction of erosion while simultaneously maintaining natural shoreline processes and increasing ecosystem services.

Located on the coastal edge of Wright's Landing and South of Wright's Landing, the ongoing living shoreline project was constructed and implemented in 2014 in an attempt to better understand the impacts of living shoreline models over time and at a larger scale.

Stop # 1: an Introduction Modern Communities at the GTM Research Reserve

(future completion upon collection of oral histories of modern communities)

Location: Orange Trail
Time: 1:08 min

Whether you walk the trails, bask in the blistering sun overhead, cast a net across the glistening waters, or paddle against currents, this landscape has and continues to possess within it traces of people throughout time, many who have long utilized and called this peninsula home. As a 76,760-acre reserve area, the GTM Research Reserve offers visitors and locals alike a glimpse into Florida's natural landscape, virtually untouched by human development since its purchase by the state of Florida in 1984. Every day, hikers, bikers, equestrians, kayakers, and fisherpeople enter into the reserve and utilize its resources. However, the land is not only used recreationally. As one of only 30 research reserves in the US, scientists, including biologists, chemists, and archaeologists, make their mark on this landscape as they study the unique flora, fauna, and past of the reserve. Listen in as we explore the modern communities that are still connected to and utilize this landscape before you.

Stop #2: Gullah Geechee Descendants

Location: Orange Trail

Time:

Stop #3: Fisherpeople of Guana
Location: Orange Trail
Time:

Stop #4: Minorcan Descendants
Location: Orange Trail
Time:

Stop #5: Budding Researchers and Scientists at the GTM Research Reserve
Location: Orange Trail
Time: