

PRESERVING THE PAST OF ST. AUGUSTINE'S DEEP

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St. Augustine, Florida was founded in 1565 and has a rich maritime history shaped by European colonization, conflict, and trade. For over 500 years, these shores have been occupied by explorers, sailors, pirates, and soldiers, who saturated the surrounding waters with archaeological deposits linked to St. Augustine's historical development. Maritime archaeologists from St. Augustine's Lighthouse Archaeological Maritime Program (LAMP) have been working to uncover, analyze, and preserve these remnants, allowing them to piece together the puzzle of St. Augustine's naval significance.

St Augustine's Maritime Legacy

In 1565, King Philip II of Spain sought to establish a base on Florida's coast. Don Pedro Menéndez de Avilés arrived on King Philip's orders and secured Spanish control by defeating the competing French Huguenots, establishing the town of St. Augustine. As a naval hub, the city funneled treasures back to Spain and defended the coast against pirate attacks. It wasn't long be-

fore other European powers attempted to take St. Augustine for themselves, leading to the construction of the Castillo de San Marcos. The English burned the town in 1586, including the first model of the now iconic lighthouse on Anastasia Island. A new watchtower was constructed in 1737 and later was replaced by the current lighthouse in 1874. Over the following centuries, shipwrecks, battles, and natural disasters have contributed to St. Augustine's vast underwater archaeological record.

Exploring Underwater Archaeology

Underwater archaeology, a sub-field of maritime archaeology, examines human interactions with the sea through submerged artifacts like shipwrecks and underwater settlements. Artifacts are initially preserved in the low-oxygen environment; however, once excavated and exposed, rapid deterioration occurs. Special care must be taken to stabilize these objects within the laboratory environment. Archaeologists use a combination of chemical treatments and physical conservation methods to maintain and restore artifact integrity.

The Lighthouse Archaeological Maritime Program (LAMP)

The LAMP, established in 1999 by the St. Augustine Lighthouse and Maritime Museum, is dedicated to researching the region's maritime heritage and identifying and preserving its maritime sites. Data collected by LAMP's archaeologists is vital to understanding St. Augustine's history and global connections across time. Some of the team's notable discoveries include the "Storm Wreck," a Revolutionary War-era vessel excavated between 2009 and 2014. Using x-ray analysis, LAMP archaeologists identified corroded artifacts encased in concretions. Advances in conservation technology established by the LAMP allow archaeologists to restore the integrity of damaged artifacts, thus revealing deeper insights into St. Augustine's past.

Conservation/Preservation Methods

Artifacts retrieved from the sea are often saturated with salts and minerals that cause corrosion and deterioration, making the conservation of underwater artifacts a meticulous process. LAMP's six-step process for artifact preservation includes:

1 Initial documentation: The preservation process begins in the field with recordings of artifact locations, associations, and site maps. Once artifacts are brought to the surface and safely stored in the lab, initial photos are taken (for later archival data and comparison) along with x-ray images and quantitative measurements (weight, lengths, widths, etc.). These are then entered into an online database.

2 Cleaning: After artifacts have been properly documented, they must be cleaned. Archaeologists use combinations of chemicals and mechanical cleaning procedures, with various tools like chisels and dental picks to rid the objects of corrosion.

3 Desalination: Electrolysis and chemical baths extract salts from the artifact's compositions to prevent further degradation. Copper artifacts undergoing desalination are on display at the Lighthouse Museum because the chemical solution turns blue as the salt is removed.

4 Hot Rinse: A series of hot baths remove any residual chemicals leftover from the desalination process or other debris. Protective Coatings: As a final layer of protection, the stabilized artifacts are coated with a paintlike mixture of corrosion inhibitor and a sealant.

This coating prevents the object from deteriorating further while in storage or on display.

5 Final Documentation: Lastly, final photos, measurements, and data must be inputted into the database, finalizing the archival record for future research.

The conservation process is essential in archaeological analysis. Without preserved artifacts, there is no research. Archaeologists are concerned with how material culture depicts human relationships, so the preservation of artifacts and data is crucial. Restoring objects, like cannons for example, provides insight into their design, usage, and historical significance, connecting material culture to the people who created and relied on these objects. One cannon can tell us about the manufacturer, the user, and the people on the other side of its barrel.

Conclusion

Archaeological sites and artifacts are constantly evolving, but preservation ensures they remain accessible for study. When conservation methods are carefully undertaken, the deterioration of materials is limited, and future research in underwater archaeology is possible. As maritime sites like St. Augustine are explored, archaeology will continue to uncover the stories of those who sailed, traded, and fought, illustrating the past foundations for our future.