

Timucuan Science & History Symposium
January 31, 2020, Ribault Club, Jacksonville, Florida
Presenter Abstracts and Biographies

FEATURED SPEAKER

A Year of Science and History, from the Grand Canyon to the Timucuan Preserve

Mark Woods

Florida Times-Union

Bio Sketch: Mark Woods is Metro columnist for the *Florida Times-Union*. In 2011, he won the Eugene C. Pulliam Fellowship, an award given to one writer in the United States each year. The fellowship allowed him to take a sabbatical and spend one year working on a project about the future of the national parks. During that year, he lost his mother, turning the project and a subsequent book into something much more personal. *Lassoing the Sun: A Year in America's National Parks* was published in June 2016, shortly before the centennial of the National Park Service. *Lassoing the Sun* won the gold medal for general non-fiction in the 2016 Florida Book Awards.

ORAL PRESENTATIONS

Building, Mining, and Excavating Shell Mounds in the Theodore Roosevelt Preserve (NPS)

Keith Ashley

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Abstract: In 2018, the University of North Florida spent four weeks testing the Browne II site within the Theodore Roosevelt Preserve. This approximately 2000 year old archaeological site occupies an upland point overlooking widespread saltmarshes along the south side of the lower St. Johns River. Early in the twentieth century the site was purportedly covered by shell mounds reaching heights in excess of six feet. William Sears, who dug three small test pits at the site in 1955, reported that much of the mounded shell that once blanketed the area had been sold and carted away for road fill decades earlier. Today, the Browne II site consists of small, scattered "islands" of apparently intact shell midden. The primary period of occupation of the site is known to archaeologists as Deptford (500 B.C. - A.D. 300). This paper discusses the results of field school excavations and assesses our current understanding of the Deptford culture in northeastern Florida.

Bio Sketch: Keith Ashley is an archaeologist and assistant professor of Anthropology at the University of North Florida. His research focuses on the histories and cultures of Native Americans of northeastern Florida before and after European contact.

Preliminary Status of Terrestrial Vegetation within Maritime Forests and Woodlands of Timucuan Ecological and Historic Preserve

Forbes Boyle

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Abstract: In Spring 2019, the National Park Service's Southeast Coast Inventory and Monitoring Network (SECN) published its terrestrial vegetation monitoring protocol in order to track changes in plant community assembly and overall vegetation structure across multiple national park units within the Southeastern Coastal Plain, including Timucuan Ecological and Historic Preserve (TIMU). Vegetation in parks is monitored as a key indicator of natural resource health because changes in vegetation condition reflect effects of stressors such as extreme weather, disease, invasive species, fire, and land use change. Key attributes--including species presence and abundance, woody stem density, fuel abundance, and disturbance observations -- were measured within 23 long-term monitoring plots on TIMU in May and June 2019. Plots were established in the Thomas Creek, Cedar Point, and Theodore Roosevelt units of the park, across a range of habitat types, including mesic pine flatwoods, hydric to mesic hammocks, mixed hardwood upland forests, and xeric coastal scrub. These data represent the baseline status of the park's terrestrial vegetation, and serve as a starting point to assess overall condition through this monitoring effort.

Bio Sketch: For the past eight years, I have been a botanist with US Fish and Wildlife Service's (2011-2018) and National Park Service's (2018-present) Inventory & Monitoring Division. Currently, I serve as the vegetation monitoring lead for the Southeast Coast Inventory and Monitoring Network (SECN). Through this position, I am able to work with others to provide scientific capacity on our southeastern coastal Parks. Since joining the Department of Interior (DOI), I have worked closely with a diversity of conservation partners to develop scientifically-driven resource inventory and monitoring approaches for implementation on DOI lands. Before joining DOI, I was a post-doctoral scholar in the Plant Ecology Lab at the University of North Carolina, Chapel Hill (2006-2011). My research aimed at providing effective guidance and tools for ecosystem restoration across the Carolinas, and helped improve vegetation classification models in the southeastern US.

Hazzard Family History

Shantel Christmas

Orderwonover@gmail.com, Independent Researcher

Abstract: When looking at the history of the island, the British Land Grant and its owners are oft overlooked. Finding the history of Richard Hazzard and his family's journey through

American History changes how we view Colonial Plantation Culture. They emigrated in 1699 from England to the US. Built a network of land and plantations that stretched from South Carolina, to Georgia, and finally to Ft. George Island. They married into prominent families such as the Blackshears, Barnwells, and the Wiggs. The first owners of Kingsley Plantation were all also connected. McQueen, and Wigg are mentioned in the Dowager Lawsuits brought by Kingsley's mother. McQueen and McIntosh are mentioned in Anna Kingsley's probate lawsuit. There is more research to be done to discover what happened to the Hazzard family, but we now have a broader scope of how they came to be here. Research was completed by searching through libraries from Florida to South Carolina, online searches, and family trees.

Bio Sketch: Shantel Christmas is a history enthusiast, with a general focus on genealogy. Professionally she works in retirement education for a fortune 500 company, and social media for a small boutique. She volunteers with the National Park Service at Kingsley Plantation, with River City Pride for the annual Pride Parade for the last 3 years, and on occasion with the Veterans Administration doing cemetery clean up. Her current research focuses on the British Land grant for Ft. George Island, the Hazzard family, and building a history of the family. She is from Kingsland, Ga., and grew up steeped in the local history. She now resides with her two cats Annie and Paddington in Jacksonville, FL. She spends her free time doing living history, researching, and home arts.

The Search for Franklin Town: Parallel Historical Trajectories from Slavery in Florida and Puerto Rico

Eugen Emory¹ & Mary Mallinson Long²

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Abstract: Slavery in Spanish Florida differed politically and legally from chattel slavery as practiced in the original 13 colonies. The practice of slavery in the U.S., before and after the Revolutionary War, insured its perpetuation via ancestral laws and other forms of psychological and emotional subjugation. In some geographically-isolated areas of the U.S., commercial development within European communities flourished, while adjacent communities of former slaves remained functionally neglected by local governments. This core feature of slavery's legacy can be observed in present day areas of the U.S., such as American Beach on Amelia Island in northeast Florida (the descendent community of Franklin Town) and the community of Loíza (in the U.S. territory of Puerto Rico). This discussion will describe the history of these settlements with a focus on parallels in economic and social development. These communities shed light on the legacy of slavery despite major differences in philosophy and intrinsic views regarding the humanity of enslaved persons. What these communities provide is a deeper understanding of the human condition and how the legacy of slavery affects present day life despite a geographical divide of more than a thousand nautical miles and a cultural divide of over two hundred years.

Bio Sketches: Dr. Eugene Emory attended Edward Waters College in Jacksonville Florida, the oldest continuously operating institution of higher learning in Florida and the oldest HBCU below the Mason-Dixon Line. He completed Masters and Doctor of Philosophy degrees at University of Florida and fellowships at Washington University and University of California-Los Angeles. He is the recipient of the "Outstanding Alumnus Award" from the College of Health Related Profession at UF and a Research Scientist Development Award from the National Institutes of Health. He is a former member of the board of trustees of the American Beach Property Owners Association and an advocate for the community's preservation. Dr. Emory enjoys sharing the history of Franklin Town and the Harrison Plantation, the descendants of which represent a living link to colonial Florida and the Timucuan Historic Preserve.

Mary Mallinson Long is the great-great-great-great granddaughter of Samuel and Elizabeth Harrison, founders of Harrison Plantation in 1793 Spanish Florida. Born in coastal Virginia, she attended University of Tennessee, graduating with a BS in Plant and Soil Science, and a MS in Forestry and Environmental Policy. Previously she was a small business owner, and later worked for the U.S. Forest Service in conservation planning, and land management across the U.S. and southeast Asia. She is a board member of Franklin Town Historical Association and owner of Harrison Family Cemetery. Now retired, she lives with her husband, Herman, in Maryville, Tennessee, traveling frequently back to "Harrison Homestead" on Amelia Island.

Update: Lethal Bronzing, a Disease of Palms in Florida

Lawrence (Larry) Figart

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Abstract: In late 2006, a phytoplasma was isolated from edible date palm (*Phoenix dactylifera*), wild date palm (*Phoenix sylvestris*), Canary Island date palm (*Phoenix canariensis*), and Queen palm (*Syagrus romanzoffiana*). In 2008, the phytoplasma was isolated from the native Cabbage palm (*Sabal palmetto*). The disease was first called Texas Phoenix Palm Decline (TPPD) because it was found to be the same pathogen isolated from *P. canariensis* in Texas in the early 2000s. At this time the host list has expanded to 16 palms in Florida. Subsequently the name of the disease was changed from Texas Phoenix Palm Decline to lethal bronzing (LB) disease in order to reflect the symptoms seen in various hosts. For several years the vector of the disease unknown but was thought to be a planthopper. In 2019 it was announced that the palm cixiid, *Haplaxius crudus*, is believed to be the single vector capable of carrying the bacterial parasite that causes the disease. There is no cure for the disease, however trunk injections of oxytetracycline in high value palms prevents the disease in treated palms.

Bio Sketch: Larry Figart is an Extension Agent II in Urban Forestry, for the Duval County Extension Service. He is responsible for delivering educational programs in the field of urban forestry, arboriculture, and horticulture. He is an International Society of Arboriculture Certified Arborist and holds a State of Florida Pesticide Applicators License. His expertise is in arboriculture, tree selection, tree maintenance, troubleshooting tree problems, pruning trees, and tree protection during development. Mr. Figart received his bachelor's degree in 1985 from

University of Florida in forest resources and conservation. He received his M.S. in Agricultural Education and Communication from the University of Florida in 2008.

Archaeological Investigations at Kingsley Plantation Slave Cemetery

Michelle Gray

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Abstract: This presentation will review fieldwork completed by Southeast Archeological Center (SEAC) at Kingsley Plantation from late April to early May, 2017. The fieldwork was focused on determining whether there were additional burials associated with the slave cemetery rediscovered by the University of Florida during the 2009 field school session. In 2017, the park requested assistance in determining the boundary of the cemetery to ensure proper management of the site, particularly during post-storm recovery efforts. Field survey commenced with a full geophysical survey of the open grounds between Palmetto Ave and the eastern arch of the cabins, using ground penetrating radar, magnetometers, and conductivity and magnetic susceptibility to determine possible subsurface burial signatures. Additionally a cadaver dog survey was employed during the survey and then the following winter. Following the geophysical survey, test excavations were placed offset from the known burials to determine extent. Lastly, in order to ensure full coverage of the area, soil probes were used to test locations between the known burials and the test excavations. The results of the survey found several possible grave shafts near the known burials, as well as provided insight for future archeological investigations at the site.

Bio Sketch: Michelle Gray has been an Archeological Technician with the Southeast Archeological Center (SEAC), located in Tallahassee, Florida, since 2016. Following her graduation from the University of Florida with a B.A. in Anthropology in 2014, Gray worked for the U.S. Forest Service shortly before working with the National Park Service at SEAC. Gray's research focus is on African-American and Afro-Caribbean archaeology in U.S. Southeast and St. Croix, U.S. Virgin Islands. Gray is currently pursuing her M.S. in Anthropology from Florida State University.

The Discovery and Archaeological Potential of Jean Ribault's 1565 Flagship *Trinité*

Chuck Meide

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Abstract: With the 450th anniversary of French colonization at Fort Caroline in 2014, both state and LAMP archaeologists attempted searches to find the remains of Jean Ribault's four shipwrecks. While these attempts were inconclusive, in 2016 a treasure hunting company found a sixteenth-century shipwreck off Cape Canaveral that was clearly related to the lost French fleet of 1565. The salvors made an Admiralty claim to secure salvage rights, but the Republic of France counterclaimed the wreckage was that of Ribault's flagship *la Trinité*, and

therefore French property. On 29 June 2018 a federal judge recognized France's ownership, noting that the preponderance of evidence indicated the shipwreck was indeed la *Trinité*. In December 2018 it was announced that France and the State of Florida would jointly investigate and manage this shipwreck. This paper summarizes the historical background, surveys, court case, and the latest information regarding this important shipwreck site.

Bio Sketch: Chuck Meide grew up in Atlantic Beach, Florida and attended Florida State University for his BA and MA degrees, and the College of William & Mary for his PhD studies. He has conducted extensive archaeological research on historic shipwrecks in Florida and around the world. Since 2006 he has served as the Director of the Lighthouse Archaeological Maritime Program (LAMP), the research arm of the St. Augustine Lighthouse & Maritime Museum.

Timucua /French Relations and the Failure of Fort Caroline

Wesley Moody

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Abstract: In April 1564, Rene Laudonniere established a French settlement on the banks of the St. John's River. This was France's second attempt to form a settlement in North America. These two settlements, organized by Admiral Gaspard de Coligny, would end in tragedy. Laudonniere's Fort Caroline settlement failed miserably for several reasons; poor discipline, lack of support from France, starvation and, of course, the weather. One of the major reasons for French failure was Laudonniere's disastrous diplomatic relations with the Timucua peoples. The work, for obvious reasons depends on European sources. Reading the French and Spanish narratives through the lens of what we now know about the Timucua and European biases gives a clearer picture of French/Timucua relations. This paper is part of a larger monograph I am writing about the French Spanish conflict of North East Florida in the 1560s. This is the first military conflict between Europeans in what is today the United States of America.

Bio Sketch: Wesley Moody has been a professor of history at Florida State College at Jacksonville since 2007. He earned his PhD from Georgia State University in 2009. He is the author of four books on 19th Century American history. He has written over fifty journal articles, book chapters, encyclopedia entries, and book reviews on a range of numerous aspects of America's history. Dr. Moody is a native Floridian and lives in Orange Park with his wife and four children.

Genetic Analysis of the Fungal Community Resident in *Asphondylia borrichiae* (Diptera: Cecidomyiidae) Galls

Sophie Nagle

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Abstract: The gall-inducing midge, *Asphondylia borrichiae*, is an ambrosia galling insect with a close association with fungi that are integral to its life-cycle. *Asphondylia borrichiae* is an

endophagous midge that spends much of its life as a larva developing within a gall. Adults live for only a few days and female midges obtain the obligate fungi from the wild and deposit the fungal conidia in the host plant during oviposition. *Asphondylia borrichiae*'s primary host is the sea oxeye daisy, *Borrchia frutescens*, with certain subpopulations diverging to using two species of Iva. The fungal community is an important component in understanding how these shifts in host plants and subsequent sympatric speciation occurs. While much genetic analysis has been done on the midge, the fungi necessary for gall formation have not undergone species identification or genetic analysis. To accomplish this, galls from several local sites were collected and fungal samples were collected from internal and external surfaces of the galls. After culturing the fungi, they were isolated on sabouraud dextrose agar (SDA) plates and DNA extracted using MoBio Soil Micro clean-up kits. After PCR amplification on the ITS region (ITS1 and ITS4 primers) the strains were sequenced for phylogenetic analysis.

Bio Sketch: Frances S Nagle is a current graduate student at University of North Florida, Department of Biology. She earned her B.S. in Biology and minor in Entomology from University of Florida. Currently, her research focuses on the ecology and evolution of plant-insect interactions, especially factors that affect sympatric divergence between host-associated populations of herbivorous insects. Her study system includes *Borrchia frutescens*-*Asphondylia borrichiae* and the fungal communities involved.

Indirect Effects of Plant Quality on Parasitoid Community Composition in the Galls of the Midge *Asphondylia borrichiae*

Kevin Orta

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Abstract: *Asphondylia borrichiae*, oviposits near the apical meristems of its host plants, especially sea oxeye daisy. During oviposition, females also deposit fungal conidia which stimulate development of a tumor-like structure (= gall) within which the midge larvae develop. Immature stages of *A. borrichiae* are attacked by four species of parasitic wasps, which vary greatly in size and abundance. For instance, *Galeopsomyia haemon* is gregarious and the smallest species, while *Torymus umbilicatus* is a solitary parasitoid with an ovipositor that is three times longer than that of *G. haemon*. Both *G. haemon* and *T. umbilicatus* are hyperparasities that can parasitize immature stages of the other parasitoids in addition to the gall midge. Previous studies have found that *T. umbilicatus*, owing to its very long ovipositor, has a distinct advantage over the other members of the guild in large galls because it can oviposit when gall diameters are maximal. Plant quality was manipulated using 1-m² plots that received either salt (= stressed) or ammonium nitrate fertilizer (= vigorous) every two weeks from March - August. Effects of plant quality on gall growth and survival rates as well as the relative dominance of *T. umbilicatus* and *G. haemon* in stressed and vigorous plants were assessed.

Bio Sketch: Kevin Orta is a graduate student from the University of North Florida (UNF). He graduated with his B.S. in Biology from Florida International University. His current research at

UNF is focused on the parasitoid guild community that arises in the *Borrichia frutescens*-*Asphondylia borrichiae* system.

Zephaniah Kingsley v. Thomas Jefferson: The Legal and Social Case of Kinship and Legitimacy in Interracial Families

Samuel Ortiz

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Abstract: This project analyzes the case of two plantation owners who had an interracial family, both named Zephaniah Kingsley and Thomas Jefferson. I argue that Kingsley was able to pass down a legacy for his family, despite his failed attempt to legitimize them in the United States. Whereas Jefferson did not have a legacy that his interracial family could claim because he did not attempt to recognize them as his own flesh and blood legally or socially. Specifically, I provide a different perspective of who Kingsley was and analyze in more depth his relationship with Anna Kingsley, his African wife, through the lens of miscegenation. I conducted research based on legal documents and writings from Kingsley and Jefferson's racial thoughts. The study explores that even though Kingsley could not change the bi-racial system in United States Florida, he attempted to change it by legalizing miscegenation and his actions in protecting his family led to the right direction for equality.

Bio Sketch: Samuel Ortiz earned a bachelor's degree in History with a minor in Digital Humanities at the University of Central Florida. He is currently pursuing his master's degree in History at the University of Central Florida. He is a McNair Scholar alumni. He has an interest in comparative American history. In addition, he participated in the Moore Undergraduate Research Apprentice Program at the University of North Carolina, Chapel Hill where he worked alongside with his mentor, Dr. Anna Agbe-Davies. His research was a comparative analysis that investigated factors that pushed Zephaniah Kingsley to practice a different ideology compared to Thomas Jefferson's and a different system of slavery from other southern plantation owners and how this affected the influence of the mulatto women in their lives.

Seasonal Dynamics and Characterization of *Vibrio* Bacteria in the Timucuan Preserve

Anthony Ouellette, Shelby O'Brien & Janel Palomo

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Abstract: Common along coasts, *Vibrio* bacteria are found in the water column, in sediment, and associated with many types of organisms (internally and externally). The over 100 different species of *Vibrio* vary widely in metabolic capabilities as reflected in different lifestyles and contributions to nutrient cycling and food web dynamics. Some species, such as *V. parahaemolyticus*, *V. vulnificus*, and *V. cholerae*, have pathogenic strains that are responsible for food poisoning, tissue destruction leading to amputations, sepsis, shock, dehydration, and even death. Using a variety of microbiology, biochemistry, mass spectrometry and molecular biology techniques, studies in the Timucuan Preserve have focused on isolating, culturing, and

studying *Vibrio* bacteria from oysters and water. These studies reveal very high levels of bacteria in oysters compared to water, seasonal dynamics of different species, and a glimpse into diverse metabolic capabilities of thirty isolates of Timucuan *Vibrio vulnificus*, none of which appear to be pathogenic. Research from Janel Palomo's Undergraduate Honors Thesis and Shelby O'Brien's Graduate Thesis will be presented.

Bio Sketches: Dr. Anthony (Andy) Ouellette is a Professor of Biology and Chemistry at Jacksonville University. His research interests focus on using molecular, analytical, and microbiological techniques to understand bacteria in the environment. He has taught classes in microbiology, molecular biology, and biochemistry, and mentors students in aquatic microbiology research investigating harmful algae blooms and *Vibrio* bacteria. Dr. Ouellette has earned research awards from two institutions, and has published in a variety of scientific journals, including the Proceedings of the National Academy of Sciences, Microbial Ecology, and the Journal of the American Chemical Society. He has served on committees and panels for the Florida Department of Environmental Protection, The National Science Foundation, and the National Oceanic and Atmospheric Administration, and has been a peer reviewer for a number of scientific journals. To help bring science to the public, Andy produces *The Science Of...* radio and videos, which highlight local science and nature.

Shelby O'Brien graduated from Jacksonville University with a Marine Science M.S. and currently works for the Florida Department of Environmental Protection.

Janel Palomo graduated from Jacksonville University with a Biology degree and minors in Chemistry and Business, and is currently pursuing a MBA at Jacksonville University. Janel received a Timucuan Student Research Grant in 2017 and presented her research on *Vibrio* bacteria at the 2018 Timucuan Science and History Symposium.

Oysters of Chicopit

Mike Randall

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Abstract: In 2016, the Army Corps of Engineers began the Mile Point Project, to reengineer a portion of the St. John's River adjacent to, and within, the Timucuan Ecological and Historic Preserve. This project filled an ~400 m wide pass between Chicopit Bay and the St. Johns River with a 21-ha dredge-spoil cell, modifying hydrologic connections in the area. The Oysters of Chicopit study was initiated to track the potential impact to oysters within Chicopit Bay and the Timucuan Ecological and Historic Preserve, from dredging, construction, and hydrologic alterations. Using a Before-After-Control-Impact (BACI) approach, we surveyed the status of 92 oyster mounds in the affected area and 15 mounds in a control site from 2016-2018. We analyzed orthorectified 2012 aerial images to provide data prior to rechannelization operations. Results indicate that oyster mounds within the Mt. Pleasant Creek downstream of the dredge cell were negatively affected by geomorphological changes from sedimentary and erosional

processes due to altered hydrology. Within the control site, no large-scale changes to oyster mounds were detected during the study.

Bio Sketch: Mike Randall received his Master of Science from the University of Florida and has been a biologist at the US Geological Survey for 20 years. During that time, he has worked in aquatic ecosystems from the deep sea to rivers, studying organisms ranging from sturgeon to oysters. Areas of specialty include sturgeon ecology and acoustic telemetry. His lab takes a broad ecological approach to questions, trying to understand and interpret animal interactions to and within their surroundings.

Influence of Gall Size and Stem Length on Community Composition of the Parasitoid Guild that Attacks Galls of *Asphondylia borrichiae*

Tony Rossi

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Abstract: The gall midge, *Asphondylia borrichiae*, is an endemic insect that attacks the stem tips of its host plants. Female midges oviposit near the apical meristems which causes the development of a spherical tumor-like structure referred to as a gall. Immature midges develop within the galls over the next 6-8 weeks; during development juvenile stages of the midge (i.e. larvae and pupae) are attacked by four species of parasitic wasps (called parasitoids). An artificial gall and bagging experiment found that large galls captured 70% and 150% more parasitoids compared to medium and small galls. Moreover, artificial galls on stems that were even with the top of the plant canopy captured 60% more parasitoids than stems that were below the canopy and 50% more than those above the canopy. The largest parasitoid, *Torymus umbilicatus*, was found significantly more often on large galls while the smallest parasitoid, *Galeopsomyia haemon*, tended to be more common on galls that were even with the top of the plant canopy. Lastly, *T. umbilicatus*, tended to dominate large galls while *G. haemon* was the most abundant parasitoid in small galls. Effects of these non-random parasitoid distributions are discussed in terms of gall community structure and host survival.

Bio Sketch: Dr. Tony Rossi is a professor at University of North Florida, Department of Biology. He earned his B.A. and M.S. in Biology from University of Missouri -St. Louis and his Ph.D. in Biology from Florida State University. Generally, his research focuses on the ecology and evolution of plant-insect interactions, especially factors that affect host range expansion and sympatric divergence between host-associated populations of herbivorous insects. His study systems include *Borrchia frutescens-Asphondylia borrichiae*, as well as turkey oak (*Quercus laevis*) and hooded pitcher plant (*Sarracenia minor*).

Multiscale Assessment of Estuarine Water-Quality in Timucuan Ecological and Historic Preserve

Eric Starkey

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Abstract: Due to the importance of water resources to park management from ecological, regulatory, and visitor experience perspectives, estuarine water-quality in Timucuan Ecological and Historic Preserve was selected to be monitored by the National Park Service, Inventory and Monitoring Division's Southeast Coast Network (SECN). Since 2005, the SECN has employed a multiscale approach to assess estuarine water resources in the Preserve. Data collected as part of this effort are intended help resource managers: 1) better understand ecological processes and impacts caused by development, 2) make informed management decisions, and 3) form/maintain strategic partnerships to improve water-quality. In addition, given the diverse and dynamic nature of estuaries, this monitoring is intended to capture the spatial and temporal variability of these systems. Monitoring at a fixed station using continuous data loggers and discrete samples allow for evaluation of temporal patterns in core water-quality parameters (dissolved oxygen, pH, salinity, temperature, and turbidity) and nutrients (nitrogen, phosphorus, and chlorophyll-a). In contrast to fixed-station monitoring, spatial variability of water-quality is determined with park-wide assessments every 5 years. These assessments include discrete sampling of nutrients, core water-quality parameters, and water-clarity. This multiscale monitoring approach leads to an understanding of the spatiotemporal status and variability of water-quality.

Bio Sketch: Eric Starkey is an Aquatic Ecologist with the Southeast Coast Inventory and Monitoring Network, based in Athens, Georgia. Eric is the lead for Estuarine Water and Sediment Quality, and Wadeable Stream Channel Habitat monitoring protocols. These protocols are implemented in 12 parks across 5 states. Eric has been with the Southeast Coast Network for 3 years and was previously the Aquatic Biologist for the Upper Columbia Basin Network in the Pacific Northwest. Prior to his work with the National Park Service, he held a variety of research associate positions with the University of Idaho and Kansas Wildlife and Parks. Eric holds Master of Science and Bachelor of Science Degrees in Biology from Fort Hays State University, where his research and education focused on freshwater mussels and native fishes.

Insect Trapping at Timucuan: a Benefit to Taxonomy and Understanding Florida's Biological Diversity

Elijah Talamas

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Abstract: Taxonomy is the science of classifying living organisms and it relies on specimen collections to discover, document, and preserve biological diversity. The Florida State Collection of Arthropods (Gainesville) is the largest insect collection in the southeastern USA, housing more than 10 million specimens. During the past year, an insect trapping program at Timucuan

National Park has contributed material that continues to expand this "library" of biological diversity for the state of Florida. These specimens are used in studies related to biological control of pests, insect diversity, and monitoring for the appearance of invasive species.

Bio Sketch: Dr. Elijah Talamas is curator of Hymenoptera (bees, ants, wasps) at the Florida State Collection of Arthropods. He is a specialist in microscopic wasps that parasitize the eggs of other insects. Recent work focuses on using parasitoid wasps to control invasive stink bugs.

POSTER PRESENTATIONS

Partnering for Our Future: Shorebird Success at CWAs on the First Coast of Florida

Allison Conboy¹, Jean Olbert², Michelle Vandeventer² & Blair Hayman Cattau²

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Abstract: Community gives us wings. Through the concerted efforts of Florida Park Service, Florida Fish and Wildlife Conservation Commission (FWC), Audubon Florida, and dedicated volunteers, the 2019 shorebird nesting season on the First Coast of Northeast Florida was a success on many levels. Since the 1980's FWC has worked to safeguard the barrier islands in Northeast Florida with Critical Wildlife Areas. Building partnerships through the Timucuan Shorebird Alliance, which covers Nassau and Duval Counties, conservationists of all ages have collaborated to create, implement, and strengthen protections for a diverse array of shorebirds and seabirds. Protection measures such as posting nesting habitat, seasonal closures for critical breeding and foraging areas, stewarding, outreach, and law enforcement patrols, have helped to increase nesting productivity for imperiled least terns, black skimmers, Wilson's plovers, and American oystercatchers in this area. Both land managers, including the Florida Park Service and City of Jacksonville, and NGO partners like Audubon Florida realize there is strength in numbers, collaborating with staff, volunteers, and dedicated seasonal positions to accomplish goals. Outreach, collaboration, increased protections and hard work are supporting a network of shorebird and seabird nesting sites essential for the persistence of these species in northeast Florida.

Bio Sketches: As Park Services Specialist, Allison Conboy leads the coastal nesting species programs that include sea turtles, diamondback terrapins, and shorebirds at Talbot Islands State Parks. Originally from Atlanta, GA and a Georgia State University alum, Allison began working here in 2011 after earning her M.Sc. in Biodiversity and Conservation from Trinity College in Dublin, Ireland. She has been the on-site shorebird manager for eight miles of protected shoreline since.

Jean Olbert received a B.S. in Wildlife Biology from Colorado State University and a M.S. in Wildlife Ecology and Conservation from the University of Florida. Currently Jean works as a Regional Shorebird Biologist with the Florida Fish and Wildlife Conservation Commission. Her

work focuses on imperiled beach nesting birds along the Northeast and Central Atlantic Coast of Florida.

Michelle van Deventer is the Critical Wildlife Area Coordinator for Florida Fish and Wildlife Conservation Commission. She works with regional FWC staff and key partners to achieve species monitoring and habitat management goals at 32 CWAs around the state. Ms. van Deventer received her M.S. in Biological Oceanography from the University of South Florida College of Marine Science. Her professional efforts have focused on avian conservation for more than ten years.

Blair Hayman Cattau is a Regional Species Conservation Biologist for the Florida Fish and Wildlife Conservation Commission. She works on a wide variety of conservation efforts for priority nongame species in north central Florida. Blair has focused on shorebird and coastal conservation since 2011.

One African American's Need to Know: Embracing my Southern Genealogy

Jennifer Lewis

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Abstract: It has been an age-old desire to know who we are and that we belong. We hope to find our meaning in life and are then able to draw from that by those who have gone before us, our ancestors. We the descendants wish to understand our roots but cannot fully attain this goal as a Southern African American. Anna Kingsley was such an individual and I will compare and contrast our need to know. The records for my ancestors, who were either African American or of mixed blood, may not have ever existed, and make it more difficult to uncover (Hill). Although difficult, all hope is not lost as there are numerous ways of research; state and county archives, pension and military records and church records to name a few. Research and analysis will be focused specific to African American ancestry. The research tools of Ancestry, 23andMe and Family Search will be utilized throughout this process to support all hypotheses. All descendants of African Americans have the need and right to know what cloth they are cut from. This research is to better inform all individuals the importance of needing to know.

Bio Sketch: Jenn Lewis is a Medical Photographer at Mayo Clinic, who together with providers in the Dermatology, Cosmetic and Plastic Surgery department collect and chart images in treating patients. Her roots run deep in Jacksonville as she was born in Jacksonville, North Carolina and moved to Jacksonville, Florida at a very young age. A previous Nursing major, a career path change transpired and she decided to major in Fine Art. She has over 15 years' experience as a photographer and received her Bachelors in Fine Art from Jacksonville University in the summer of 2010, Magna Cum Laude. She had the opportunity to study abroad in both Paris and Florence while attending JU. Freelance photography, family style portraiture is mostly what she captures when not photographing patients at Mayo Clinic. While photography and the collecting of moments is her life's desire, she also is an avid Genealogy and History

researcher. Her desire to know her genealogy by at least 4 generations is her present driving passion.

Libertad: Jacksonville and the Fight for Cuba

Josh Salestrom

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Abstract: The United States has a long and complicated relationship with Cuba. During the late 19th century, the Jacksonville area served as a major hub of support for the Cuban struggle against Spain. Local leaders such as Napoleon Bonaparte Broward, Duncan Fletcher, and Jose Alejandro Huau risked their personal and political reputations, and in some cases, their lives, in support of the Cuban Revolution against Spain. What factors led to this level of support in Jacksonville? What is the legacy of these actions? Through analysis of local records, newspapers, biographical information, and historic sites, the answers to these questions become more clear. The legacy of this era is well-represented today within the Timucuan Ecological and Historic Preserve.

Bio Sketch Josh Salestrom works for the National Park Service as an Archeological Technician at the Timucuan Ecological and Historic Preserve in Jacksonville, Florida. He holds a MA in History from the University of North Florida and a BA in History from the University of Nebraska. He is interested in a variety of subjects, but is especially fond of the people and places in Jacksonville and northeast Florida.

Installation and Monitoring of *Spartina alterniflora* at Kingsley Plantation Seawall: A Pilot Living Shoreline and Citizen Science Project

Dominique Sanchez & Daniel Tardona

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Abstract: Timucuan Ecological & Historic Preserve covers approximately 46,000 acres comprising wetland waterways and upland habitats with miles of shorelines. A significant cultural site within the Preserve is Kingsley Plantation, a 60-acre cultural site nestled alongside the Fort George River. Shorelines are continually eroded by the movement of water, waves, and wind. Human activities like high-speed boating and hardened shorelines on adjacent properties can greatly increase the rates of erosion. Strategies to mitigate sea level rise is also of concern. When protecting coastal properties, a living shoreline (LSL) approach represents a "softer and greener" alternative to "gray" approaches such as traditional hard armoring (e.g., seawalls and bulkheads). The Park proposes to stabilize the eroding shoreline at Kingsley Plantation through the use of LSL (i.e. native vegetation plantings, oyster beds) along approximately a mile of shoreline and other locations in the Preserve. A pilot project was designed to test the viability of rehabilitating a 200 ft. portion of shoreline with *Spartina alterniflora* in front of a seawall that currently exists. The *Spartina* rehabilitation also provides

an opportunity to enlist citizen scientists to assist in planting and monitoring the *Spartina* to gather data to help guide a future LSL living restoration projects in the Preserve.

Bio Sketch: Dominique is a recent graduate of James Madison University where she received her B.S. in Biology. She has been an intern at Timucuan since July 2019 where she helps in both interpretation and resource management. Dominique enjoys spending time eating good food and visiting national parks.

What we Learned from a Large Indian Refuse Pit at the Talbot Island Site

Peter Scholz & Keith Ashley

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Abstract: The Talbot Island site (8DU80) is located near the south end of Big Talbot Island State Park. This archaeological site was occupied by Native Americans from about AD 1000 to 1600. In 2014 a University of North Florida (UNF) field school excavated a section of a large shell-filled pit near the roadside picnic area. When UNF returned to the site for our 2017 field school, we excavated the remainder of the pit. Designated Feature 3, the pit was determined to measure almost 150 cm (60 in) in diameter and 130 cm (51 in) in depth. It contained an upper zone of dense shell and a lower zone of brown sand with little shell. Pit contents included mostly oyster shells, fish bones, pottery and one shell tool. The pottery style along with a radiocarbon date suggests the pit was formed sometime during the early 10th century AD. This poster will report the results of the analysis of all the materials from Feature 3 and discuss season of deposition, possible pit function, and relationship to other areas of the site.

Bio Sketch: Peter Scholz is a retired physician and Professor of Surgery Emeritus. After acquiring a classical education in old languages and attending Medical School in Switzerland, he completed his postdoctoral surgical training at Duke University Medical Center. He practiced heart surgery for adults at Rutgers Robert Wood Johnson Medical School in New Jersey for thirty years. In retirement he has pursued his longstanding interest in archaeology by auditing classes and archaeological field schools at UNF since 2015.

Attempt to Eradicate Salt Cedar from the State of Florida

Jessica Spencer

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Abstract: Salt cedar (*Tamarix canariensis*) has invaded multiple dredge material management areas (DMMA) in Jacksonville, FL and spread into surrounding areas. The US Army Corps of Engineers began controlling this invasive shrub/tree on these sites in 2008. Since then, a plan has been developed with the goal of eradicating this species from the State of Florida. The Corps has worked collaboratively with many partners, including other federal, state and local agencies, Cooperative Invasive Species Management Areas (CISMAs), port authorities, universities and military facilities to gain access to all of the areas that the plant was

found and perform control work. There is currently one last known location that has a reproducing population of salt cedar, and there are plans to treat that population. Continued monitoring is essential to ensure that no newly germinating plants reach maturity before they are treated. With the relatively short-term seed viability, the chances of eliminating these populations in Florida are good. Everyone wants an eradication success story, but the integral partnerships that have formed to achieve this goal are the true success story.

Bio Sketch: Jessica Spencer is an Invasive Species Biologist for the US Army Corps of Engineers, Jacksonville District, where she is the lead biologist for invasive species management on Dredged Material Management Areas (DMMA's). Ms. Spencer has participated in biological control efforts, facilitated restoration projects, developed management plans for control, containment and prevention of invasive species and coordinated interagency efforts to control invasives. She routinely partners with other federal, state and local agencies to address invasive fish, snails, reptiles, mammals and plants and contributed to interagency efforts to develop an Early Detection Rapid Response Decision Framework for the Greater Everglades area.

Wildlife of Anhinga Pond: From Borrow Pit to Refugium

Daniel R. Tardona

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Abstract: The Borrow Pit, also referred to as Headquarters Pond is a large pond located along Mt. Pleasant Road near the Timucuan Preserve's Headquarters building. Staff members have observed abundant birds in the area for many years and more recently, many waterbird species are now using the pond area for nesting. This relatively small area has become a rookery and roosting site for the anhinga, a semi-aquatic bird, and wading birds like egrets and herons. The pond renamed Anhinga Pond is a protected area with trees and branches hanging above water, providing birds some safety from predation and human interactions. A healthy population of American alligators (*Alligator mississippiensis*) have been observed including juveniles suggesting that alligators may be nesting in the pond as well. In addition, several species of turtles have been observed including Common Snapping Turtle (*Chelydra serpentina serpentina*), Eastern Musk Turtle (*Sternotherus odoratus*), Florida Redbelly Cooter (*Pseudemys nelson*) and the non-native Red-eared Slider (*Trachemys scripta elegans*). More active management of the pond including water quality monitoring as well as wildlife monitoring has been initiated.

Bio Sketch: Now retired, I was a National Park Service ranger for 33 years with stints at Great Smoky Mountain National Park, Cape Hatteras National Seashore, Gateway National Recreation Area and most of my career at the Timucuan Ecological & Historic Preserve and Fort Caroline National Memorial. My interests are in human-animal interactions, animal behavior, natural resource management, interpretation and conservation psychology.