Re-Engaging Historic Military Sites

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RE-ENGAGING HISTORIC MILITARY SITES

A Thesis
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Master of Landscape Architecture

by
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May 2012

Accepted by:
Dr. Matthew Powers, Committee Chair
Dr. Grant Cunningham
Dan Ford
ABSTRACT

*Historic Conservation* seeks to protect the historically significant built environment while allowing for more current uses. As it pertains to land planning, this effort extends current land-use tools beyond the historic and conservation districts to include buffer districts and heritage areas. We need these tools because preservation, which is defined as maintaining an unaltered environment, does not adequately address managing change over time. Fort Moultrie on Sullivan’s Island, South Carolina is one example where historic preservation and conservation merge to address the adaptive reuse of this former military installation. At Fort Moultrie, many of these former installations are in disrepair and consume valuable space on a small barrier island where real estate is a premium. This study uses surveys and interviews with local residents, officials and tourists to develop a set of design guidelines for the island. Through the planning and design process, community residents and visitors can be re-engaged to not only memorialize a former battle site, but also give this landscape a current application that can be utilized for future stakeholders, and enjoyed everyday.
DEDICATION

This thesis is dedicated to my daughter, Eugenia. I designed your wings to fly even higher.
ACKNOWLEDGMENTS

Foremost, I would like to express my heartfelt gratitude to my family for their continuous support, especially when I was “in the weeds.” Their guidance has helped me throughout this pursuit and beyond. I cannot imagine having better women…mothers, aunts, and cousins after which to model myself.

I would also like to thank my friends, old and new, for their encouragement. Not only did these friends lend a necessary ear, but more importantly a hand.

I thank my fellow studio mates for the camaraderie and all the fun we have had in the last three years, even when we did not realize we were having fun.

Last, but not least, I would like to thank my daughter for understanding all the nights I could not read you a bedtime story.

You were the best inspiration I could ask for…
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Introduction and Background

As civilizations remained vulnerable to foreign incursion, landscapes throughout the world have been altered. Many of these architectural acknowledgements have become part of the everyday landscape. They fall within the broad spectrum of either still functioning in their original capacity, or left to deteriorate. Many of these sites epitomize the need for smart growth, as their locations are often where public infrastructure already exists. In addition, these sites possibly serve as places worthy of preservation from a cultural landscape perspective. In this particular case, parts of the Fort Sumter National Monument that participated in the birth of our nation have fallen into severe disrepair and abandonment, while other areas have been appropriately maintained.

Fort Moultrie, the original part of the Fort Sumter National Monument, is the name of a series of citadels on Sullivan's Island, South Carolina, built in 1776 to protect the city of Charleston, South Carolina. The original structure was constructed of palmetto logs and sand, erected by a band of patriots to defend the harbor against the British. These palmetto logs not only held, but also absorbed the cannonballs fired upon the fort by the British navy, thus saving the fort and the city of Charleston.

Today, the South Carolina state flag, adopted in 1861, displays a palmetto tree for this reason (Howe 2002).
Fort Moultrie is also known as a First System fort, meaning it is an earthwork fortification constructed before 1806. To protect areas from piracy and foreign invasion, various militias put many of these First System forts in place. Afterwards, United States engineers, the first works of the Army Corps of Engineers, used masonry to fortify the existing earthworks as well as build new ones, and thus established Second System forts (Off the Beaten Path 2012). Following the War of 1812 are the Third System forts with construction beginning in 1816 and ending with the beginning of the Civil War. Fort Sumter, sister fort to Fort Moultrie, was constructed on a shoal in Charleston Harbor during this period in 1827. The Endicott Period, beginning in 1885, was named for Secretary of War under President Grover Cleveland William Endicott. This period placed emphasis on offensive rather than defensive warfare. These fortifications were brought up to modern standards specific to the time and focused more upon hidden artillery. Upgrades to Fort Moultrie were performed during this period as is evidenced by the open-topped reinforced concrete walls and large disappearing guns mounted which sat behind the protected walls and could be raised to fire.
The Taft Period, named for President William Howard Taft, was only marked by advancement in technology such as searchlights and better artillery. At the beginning of World War I the United States had a seacoast defense system that was equal to any other nation (Off the Beaten Path 2012). As it became clear that our enemies did not have the resources to attack from across the Atlantic, operations were scaled back. Funds were directed to the more vulnerable West coast. World War II coastal fortifications became more imperative as Americans feared attack from Japanese forces. After 1947, due to advancements in air and marine support, coastal defense operations became secondary.
Again, Fort Moultrie as we see it today, is an Endicott Period fort. (Fort Moultrie and the Battle of Sullivan’s Island 2012).

The fort itself has several different geographic locations throughout this small barrier island referred to as “batteries” and “off-post buildings.” The evolution of Old Fort Moultrie from a First System fort to the present is well documented. As concerns over a new war with Great Britain prompted President Thomas Jefferson to renew older fortifications, the original earthwork was enhanced with masonry. The Second System fort was constructed around 1809 over the remains of the earlier site. Old Fort Moultrie was in use during the War of 1812, the Seminole Indian Wars, the U.S. Civil War, the Spanish-American War, and World Wars I and II (Stanton 2010.)
Interestingly, it was the place where slaves brought from Africa first entered Charleston to be quarantined before being taken to market, and it is the gravesite for Seminole Chief Osceola who died while imprisoned here.

While serving in the United States Army, Edgar Allen Poe was also stationed at Fort Moultrie between 1827-1828, and it is here where he penned the short story *The Gold Bug* among others. Furthermore, it is the only area of the National Park System where the entire 171-year history of American seacoast defense (1776–1947) can be traced (Fort Moultrie and the Battle of Sullivan’s Island 2012).

As the fort was decommissioned in 1960, several of the batteries throughout Sullivan’s Island were abandoned. These batteries have evolved from well-maintained ammunition centers, to prisons, to monuments that have now become underutilized hazards. The National Park Service maintains one of the batteries, Battery Jasper. The remaining batteries and buildings have been adapted to become private residences, the town library, community centers, or abandoned.

Currently, the majority of these former installations are in disrepair, consume valuable space on a small barrier island where real estate is a premium, and are a detriment rather than an asset to the legacy of Sullivan’s Island. Moreover, the batteries are no longer “connected” to one another as development throughout the island has broken up the network. This disconnection has left both island residents and tourists with a lost “sense of place” for the installation, allowing for little or no interpretation. These former military bunkers spread throughout Sullivan’s Island are not only eyesores but also have no current purpose.
There is a lack of signage and other medium for educational purposes. In addition, these are somewhat dangerous places, inhospitable to local residents and tourists alike. Their poor condition coupled with the amount of space they consume combine to yield an underused island asset.

Source: Battery Logan, Fort Moultrie, January 2010, John Stanton April 11, 2010

Missed educational opportunities abound as the fortifications left by earlier wars could serve to educate the public.

As stated before, this site is a memorial located within a national park. The scattered batteries associated with Fort Moultrie could also serve as community spaces through a hybridization of uses. Such uses could be concerts, farmers markets, adventurous playgrounds, educational sites marked with plaques, and green space for people and wildlife. Currently, through having no plan at all, we are losing history, as well as a series of valuable monuments and opportunities for the community.
Lastly, a growing maritime forest is also encroaching upon this valuable land due to island accretion. The construction of the jetties in 18 has accelerated the island’s growth. Some residents and tourists view this accretion of the island, and especially the expanding forest, as a positive direction for the barrier island as the flora stabilizes the land and enhances the existing watershed. Others see the forest as invasive and a nuisance, taking away previous ocean views, and desire to remove it.

The ongoing struggle concerned with the ultimate fate of the forest, and its impact on these historic sites, as well as personal properties, is currently being addressed in the judicial system. Nathan and Ettaleah Bluestein, and Theodore and Karen Albenesius have filed a lawsuit against the Town of Sullivan’s Island concerning the accreting land adjacent to their properties and in particular the pruning of the maritime forest. (Hackler, Kristin. Sullivan’s sued: Rights to trimming in accreted land an issue for property owners. Island Eye News. 2010).
Barrier Island Development

To appreciate the reasons Sullivan’s Island was developed, one needs to understand the geology and stability of the island. The South Carolina coastal plain was historically underwater seven times, and as recently as 12,000 years ago. Six steep slopes at the edge of high ground and seven terraces create the surfaces of the lower Coastal Plains. All of which are remains of land left by the constantly moving seas of different geological times. Terraces are temporary ocean floors resulting from the sea level rising and falling over time. This is especially evident through the Sand Hills of South Carolina. These terraces represent the seven cycles of the receding oceans of two Pliocene ages, four in the Pleistocene Age, and one in the Holocene Age, which continues to the present. The reason for the most recent 110’ drop in ocean levels, and barrier island exposure, is that we are currently thought to be in a “mini-ice age.” More alarming though is that we seem to be headed towards a more drastic seasonal temperature variance that will surpass the Eemian Stage, where sea levels were 13-20 feet above present day (Message from the Eemian: too late to stop significant sea level rise 2010).
Sullivan’s Island is a mesotidal barrier island, which is described as having tidal ranges between two and four meters (Leatherman 1988). Mesotidal islands are characterized by their predictability due to stable ocean inlets. These inlets help shape these islands in typically “drum stick” form with a stable center and short length. A marshy plain and low, vegetated ridges also surround them (Leatherman 1988).

The stable nature of Sullivan’s Island along with the vegetated landscape contributed to the development of the island through the construction of Fort Moultrie.
Significance

Joel W. Eastman, Bolling W. Smith, and Mark A. Berhow said it best in their article for the Coast Defense Study Group titled *United States Coast Defense Sites 1945-2011* as they described the present day state of most of the abandoned batteries found across our landscapes.

“While many of the Endicott-Taft batteries are now located within parks, they have not been accorded the same level of protection or care as earlier forts. Most are considered to be, at the worst, a legal liability, or at best, an eyesore to the park. Park administrations have built on top of them, fenced them in, buried them, and destroyed them in an effort to remove these structures from interfering with the park’s primary mission of providing recreation space. If the owners of the site don’t inflict damage to them, then vandals do by smashing doors and windows, dumping trash, and setting fires, so that after a while they have turned these structures into derelicts. Those structures that have been left alone have suffered from nature’s own attack...and everywhere the rusting of rebar and other metal work has hastened deterioration. Vegetation and tree roots have also played their part, causing some structures to collapse. Finally, as seacoast defenses, the effects of the ocean’s waves and spray have reduced some structures to rubble.

While most gun emplacements have been constructed in such a way to resist these attacks, those supporting wood and concrete-plaster tactical structures have largely collapsed, and even brick structures have been damaged or destroyed by vandals. Non-tactical structures, particularly officers’ quarters, have survived at several parks and government-owned sites through adaptive reuse, but at other former posts such structures have been completely removed, leaving only the more stubborn concrete emplacements.”

This article highlights not only the significance for the community of Sullivan’s Island, but communities across the UInites States searching for new ways to preserve, conserve, and define these spaces.

Addressing the military sites on Sullivan’s Island benefits each of the particular sites in different ways, and thus the network as a whole.
Recreating uses for these unique places through better design for each individual battery helps to reconnect the Fort Moultrie complex.

The various themes that would support such a redesign could be centered on education, the environment, recreation, and preservation just to name a few. These are all trending topics that excite local communities as well as attract investment dollars.

Not only would a redesign breathe new life into these somewhat abandoned spaces, it would help to make safe these hazardous eyesores. A more inviting, as opposed to dangerous, landscape would be welcoming, thus greatly improving the aesthetics and involvement for the island as a whole. A hybridized landscape that not only educates the public through maps and markers could also include recreational aspects, such as nature trails for ecotourism and open green spaces for ball clubs. Additionally, funding for community health initiatives are readily available through the current administration.

Organizations such as Kaboom focus on playground equipment for small communities and have no financial demographic requirements.

Educational opportunities, in addition to recreational aspects, consisting of a more current design would reconnect people to the history found here.

There is currently no identification of off-post buildings nor interpretations of these places and the historical events that occurred throughout the fort’s historical past.

Residents and tourists alike are somewhat oblivious to the involvement of Fort Moultrie in American seacoast defense.
Although some of these sites are still sacred, such as the gravesite of Osceola, others could be better utilized as public space. For example, Battery Butler, also referred to as Battery Capron, is one such historic site that was covered with a mound of dirt. The town is struggling with what to do on this historic mound to allow more use, and engage the public while respecting it’s past. In drawing more visitors and residents to these public spaces through their redesign, we would be able to memorialize these and neighboring sites more appropriately.

Battery Butler, Sullivan’s Island, John Stanton, April 2011
Research Questions

Interest in Fort Moultrie and its history is not new to Sullivan’s Island.

There has been a steady stream of visitors and residents alike who have desired to see more done to identify and connect present day uses to events of the past. Surveys taken in January 2012 were distributed to both residents and visitors. The survey is found below:

Sullivan’s Island Public Space Survey

Thank you in advance for completing this survey concerning the park spaces on Sullivan’s Island, in particular the ones formerly associated with historic Fort Moultrie. I am a student currently researching more current uses for public spaces through a Masters of Landscape Architecture. Your feedback will help better understand how this land is utilized for residents and visitors alike.

Please complete this brief 5-minute survey about your experiences at the site(s). Your answers are completely anonymous and confidential. If you have any questions, please contact me, Gina Hartness, at (864) 380-7243 or at ghartne@clemson.edu. Thank you again for your time.

1) Are you a current resident or visitor to Sullivan’s Island? (please circle)
   Resident
   Visitor
   Other _______________________________ (please explain)

2) How do you currently utilize the open spaces adjacent to Fort Moultrie?

________________________________________________________________________

3) How often do you actually visit these spaces as opposed to “driving by?”

   Never               Weekly
   Monthly            Daily
4) Do you feel that these spaces and batteries are safe today?
   Yes
   No (why not?) ____________________________________________________________

5) How would you describe these spaces associated with Fort Moultrie to a visitor?

6) What alternative uses do you suggest for these space(s)?

7) What is your current occupation, and if retired, what was your former occupation?

8) What is your current age range? (please circle)
   under 20
   20 - 34
   35 - 49
   50 - 64
   65 - 79
   80 and older

9) Do you have any other comments regarding the site(s) formerly a part of Fort Moultrie?

*Interesting Fact: Sullivan’s Island, home to Fort Moultrie, is the only area of the National
Park System where the entire 171-year history of American seacoast defense (1776–1947) can be traced.
Interviews were also conducted on several different visits in the fall of 2011 and winter of 2012. The focus group for the development of the mound site was The Park Foundation. This not for profit is located on the island, and has been asked by the Town of Sullivan’s Island to better engage people to enjoy this space.

Ideals of historic preservation, recreational management, conservation, and adaptive reuse helped to form the questions posed concerning the redesign of these spaces, including:

1. How can we improve the safety and aesthetics of the former batteries?
2. How can we better connect the batteries to the fort and one another?
3. How can we engage the public to use these spaces more?
Adaptive Reuse of Former Industrial Sites

Architect Peter Calthorpe once said, “If we want to know how to make a neighborhood better, we should start with the worst places and put the best things we can possibly imagine there” (Steffen, 250). Brownfield developments, such as the Fort Moultrie batteries, speak entirely to this concept. Generally, these sites exist in a city or town industrial section, on locations with abandoned factories or commercial buildings, or other previously polluting operations. Small brownfields also may be found in many older residential neighborhoods, such as the fort on Sullivan’s Island.

For example, many military installations produced high levels of subsurface contaminants during prior operations, and the land they occupy might sit idle for decades. These sites can be redeveloped as parks or other recreational areas. The redevelopment usually is dictated heavily by the prior use of the site.

The solution to Fort Moultrie’s abandoned military batteries, or bunkers, is obviously not to tear them down, but perhaps attach a more current use that involves more people and activities. Adaptive reuse is a process that changes an ineffective item into a new item that can be used for a different purpose (Adaptive Reuse: Finding Opportunity In Our Vacant Built Assets 2012). Sometimes nothing changes but the item’s use. Aiming to reduce, re-use and recycle waste, we find new life in everything from bottles and boxes to clothes, vehicles, and buildings.
The most successful building reuse projects are those that best respect and retain the building’s cultural significance and add a contemporary layer that provides value for the future. The adaptive reuse of a historic building is considered smart growth, and should have minimal impact on the cultural significance of the building and it’s setting.

*Smart Growth* is defined as “development that serves the economy, the community, and the environment. It changes the terms of the development debate away from the traditional growth/no-growth question to “how and where should new development be accommodated” (Adaptive Reuse: Finding Opportunity In Our Vacant Built Assets 2012)?

Smart growth is development that simultaneously achieves:

- Economic development
- Strong neighborhoods
- Healthy communities

How we impact not only the actual building or site we are preserving, but how that preservation affects the larger area, and the broader environmental and economical contexts, is paramount; therefore, flexibility along with extensive participation become key in this discussion. The needs for Sullivan’s Island are to use the spaces that already exist here in a more hybridized way. Open green spaces for recreation could also be used for community events, such as concerts and holiday festivals. The former batteries could be better utilized as educational tools explaining not only the history, but also of the island and our country’s independence as well.
One of the first steps taken towards development of a brownfield site is determining exactly what to do with the site. It is helpful to have a known use of the site from the beginning. Sanborn maps can be indispensable for determining the possible contaminants that may be present. With the identification of a general type of desired development, “absent information could significantly increase the time and expense of the project. And possibly make it infeasible” (Environmental Protection Agency, 2012). However, this should not be the case within these particular sites, leading citizens to weigh all of their options.

The possibilities in lesser-polluted brownfield developments are endless. While we can build spectacular parks, residential and mixed-use sites, we can heal these spaces as well. Long-term opportunities exist that will repay our communities’ investment with compound interest. That interest will take the form of time reclaimed as well as preserving our natural habitats. Not to mention rebuilding on previously developed sites keeps the cost of infrastructure down. While there are some barriers to brownfield development, the long-term gains far outweigh the short-term expenses. Cities and towns that are “land-locked” have to look at other solutions to deal with the growing population and their needs. Sullivan’s Island is one such town currently challenged with development throughout the island. “Our goal should be to use every urban acre as effectively possible” (Steffen, 250). Sullivan’s Island is clearly a small barrier island that could benefit greatly from the redesign of under utilized aspects of Fort Moultrie.
Adaptive Reuse and Smart Growth are not new concepts. They simply need to be framed better for communities to take advantage of their meaning. These ideals have been proven in former military installations throughout Europe and the United States, making better use of already existing spaces.
Case Studies

**Pont du Hoc**, located in Normandy, France, is a former battlefield where the United States first invaded Europe during the German occupation. This battlefield closely resembles the coastal landscape of Fort Moultrie, as both are situated on the beachfront with scattered batteries. The battlefield itself has been preserved illustrating the craters created by the Allied bombs. Preservation here has amounted to keeping the landscape and batteries “as is,” in other word a case of * Arrested Decay*, which I will explain further in the historic preservation portion of this paper.

Source: *Pont du Hoc, July 2005*
Another case study that has a military origin is the Orange County Great Park in Irvine, California. Throughout its history, Marine Corp Air Station El Toro has served the country as a training facility in peacetime, and a staging area for support of overseas military missions in times of conflict. Upon being decommissioned in 1999, the town of Irvine partnered with developers to create the award-winning park found there today. This park system features a greenway, botanical gardens, recreational areas, a cultural terrace, and a memorial. Even though this park is built on a much larger scale than exists the entire Sullivan’s Island, there are many concepts here that can be applied on a much smaller scale. For example, a greenway can be created throughout the maritime forest and a cultural terrace can be added to the design of the historic mound. Additionally, showcasing native plant species, which support migrating bird populations, mimic the idea of a botanical garden.

Source: Orange County Great Park, OrangeJuice, 2011
**Fort Stevens** in Astoria, Oregon is a historically significant fort built during the Civil War. It is the only military installation that received hostile fire from Japanese forces in the contiguous United States during World War II. After it was decommissioned in 1947, the land was turned over to the Oregon Parks and Recreation Department, and included within the Lewis and Clarke National and State Historic Parks. This fort has enormous historical importance much like Fort Moultrie and is now housed in a much larger National Park System.
The Presidio in San Francisco, California is the most famous example of adaptive reuse of a former military installation. This former military site served as an army post to three nations (National Park Service 2012). Another national park created on a large scale, there are many ideas to borrow from here and apply to Sullivan’s Island. One can enjoy coastal vistas from both beaches and forests. A national cemetery reminds one of the sacrifices of former lives much like the cemeteries throughout Sullivan’s Island that hold the historic remains of former slaves. Lastly, previous military areas of the Presidio serve to educate the public to a cultural history spanning over 218 years.
Lastly, I chose to study **Fort DeSoto** in St. Petersburg, Florida. Located on five adjacent keys much like the barrier island of Sullivan’s, this fort dates back to 1849. Its batteries, built during the same period of Fort Moultrie, were placed on the National Historic Register in 1977. A seven-mile trail takes advantage of one of the most popular beaches in the nation and is linked through the fort itself.

There are also historic mounds throughout the fort reminding one of the mounds currently being considered for re-design on Sullivan’s Island.

*Battery Mellon, Fort de Soto, John Van Horn, 2012*

[http://www.moosicmountainwild.com/Forts2/fortdade.htm](http://www.moosicmountainwild.com/Forts2/fortdade.htm)
**Historic Preservation and Conservation Working Together**

Historic preservation is an endeavor which seeks to preserve and protect buildings, objects, landscapes or other artifacts of historical significance (Fitch 1990). In particular to the built environment, these buildings should be preserved and interpreted in such a way that protects their unique architectural style and history. Monuments fall well within the act of preservation, and one could argue the site of Fort Moultrie is a monument in itself. A type of structure either explicitly created to commemorate a person or important event, monuments become important to a social group as a part of their remembrance of historic times or cultural heritage, or simply an example of historic architecture. To the extent we highlight these aspects are the basis for new designs for monuments such as the fort found on Sullivan’s Island.

The historically important complex of Fort Moultrie is currently being preserved at a bare minimum. Due to current historic preservation practices, batteries associated with the site remain to be a hazard. Former batteries such as these have been allowed to deteriorate to the point of being dangerous. Sadly, still nothing has been accomplished to make many of these sites safe. A design utilizing the spaces in different ways paying attention to the well being of its users, while respecting the history, would provide options for the more appropriate preservation of the various sites. Moreover, a redesign would add to the overall safety of these spaces through more users being present.
Mentioned before is the concept of *Arrested Decay*, a term coined for a new trend by the State of California in how it would preserve Bodie State Park, a former mining town (DeLyser 1999).
A more common application of this concept is the preservation of war ruins as memorials. Several examples of arrested decay are found throughout war-ravaged Europe and Asia, and the ways these spaces are both memorialized and used today. In Japan, the Hiroshima Peace Memorial endures as a symbol of hope for peace and nuclear disarmament (Hiroshima Peace Site 2012).

Gambaku Dome of Hiroshima, March 2007, Sean H. Yu
In Vukovar, Croatia, the town’s water tower stands heavily damaged by artillery and represents the town’s suffering during the collapse of Yugoslavia (Deutsch Welle 2010).

Vukovar water tank, June 2005, Tieum512
This concept addresses how the structures will be maintained, but only to the extent that they not deteriorate in a major way. Usually a date serves as the benchmark as to how the site is preserved. Anything before the date is kept in that exact state, and anything after the date is removed. In essence, decay is kept from occurring.

Another example is the Eastern State Penitentiary in Philadelphia, PA. They prefer the term, “preserved ruin,” but the concept is still the same (Eastern State Penitentiary 2012).
This concept would work well for the batteries still lying above ground on Sullivan’s Island. To keep the façade erect and limit its use to the surrounding outside areas could still serve to educate the public on events that occurred there without having to undertake the expense of costly renovations to make these spaces safe for visitors inside.

Many of the abandoned sites we seek to preserve are ideal locations to encourage people to utilize them through the advantage of location. Renewing an already existing resource can most likely be a better solution to further community development.

Sustainable development as defined should "meet the needs of the present without compromising the ability of future generations to meet their own needs” (International Institute for Sustainable Development 2012). The preservation and rehabilitation of existing buildings are generally seen as beneficial, not least because the embodied carbon in the buildings is retained and utilized over long time spans (International Institute for Sustainable Development 2012). However, not all building conservation is “green” in the currently understood meaning of the term. There are some uncomfortable truths that we cannot ignore in the hope of being completely aligned with the influential green movement. Lead paint is one such example. Preservationists would argue that to be authentic and capture a building’s place in time, the building materials should be authentic to that era as well. Lead paint was used during certain time periods; however, it no longer is used due to the dangers associated with lead.
Common sense tells us that instead of a preservationist’s approach to this dilemma, a better, more appropriate and safe approach would be to use paints no longer containing lead. This would be the way of the conservationist. A more modern approach of managing a resource over time instead of just “fixing it,” avoiding detrimental practices to future stakeholders (International Institute for Sustainable Development 2012).

The term conservation is defined as the practice of protecting, maintaining, or managing the environment for the benefit of the natural environment and/or humans (Doyle 2005).

Planting sea oats, Southeastern Wildlife Conservation Group, February 2012
http://southeasternwildlifeconservation.org/page92.html
Traditionally, these concepts of *preservation* and *conservation* have been at odds with one another. Environmental conservationists have already addressed the need to do more than simply preserve a site, but manage it as well. The expanding maritime forest on Sullivan’s Island speaks to conservation practices currently being debated as it is encroaching on not only private properties but the Fort Moultrie complex as well.

Preservation and conservation together can be sensitive subjects, and the presentation of the solution is most of the battle when it comes to gaining ground in these areas. Considering sustainability and preservation planning, it is clear that we must consider the affected stakeholders more carefully while considering the themes of history and the importance of public space. These two concepts can address all of the above effectively. In short, we must begin to change our language regarding preservation of our historic sites to a more conservation-oriented approach (Doyle 2005). Changing the official language will set the tone for a more modern approach that addresses capturing a place in time without impacting stakeholders in a negative manner. Depending on the location, historic importance, and state of each battery, the uses can then be decided. Low impact activities, such as historic trail plaques and markers, can be conservative while interpreting the history of each site. Additionally, certain buildings can be renovated and preserved for tours while others can be kept in a state of arrested decay for educational purposes. Other batteries may serve as “adventure parks” as suggested by one island resident. Essentially, each battery can play a different role throughout the island while also addressing the surrounding environment.
Ecology

In 1979, Rene Dubos suggested, “ecological consciousness should begin at home.” He believed that there needed to be a creation of a World Order in which "natural and social units maintain or recapture their identity, yet interplay with each other through a rich system of communications" (Dubos 1979).

Maritime forests are also referred to as maritime hammocks, tropical hammocks, or coastal hammocks. They are characterized as narrow bands of forests that develop exclusively on stabilized dunes of barrier islands, inland of primary dunes. These unique coastal habitats more commonly originate on barrier islands, but are also present in areas adjacent to estuarine waters throughout the world (Russell 2009).
The Center for Coastal Resources Management (CCRM) also refers to the islands as “maritime dune woodlands” and “maritime uplands” composed of a variety of salt tolerant, deciduous, coniferous, and broadleaf evergreens and shrubs. These forests are typically found on the widest sections of barrier islands and flourish where topography and wind orientation provide sufficient protection.

**BARRIER ISLAND PLANT COMMUNITIES**

Natural dune settings typically will be stabilized by vegetation, and they may show what botanists call plant succession, in which a predictable sequence of plant types occurs in a landward direction. These plants trap sand to form embryonic dunes in which grasses take hold. The grass zone of the frontal dune gives way to shrub thickets. The zone of shrubs gives way to trees and into maritime forest, which is a climax plant community - the final, mature end product of plant succession (Neal, Pilkey, Kelley 186).
Currently, this protected habitat is being debated on Sullivan’s Island as to whether these forests should remain standing.

The research is undeniable that maritime forests help to stabilize barrier islands, thus keeping the sand in place and from shifting. This provides for greater protection from hurricanes and coastal storms. Moreover, these hammocks trap freshwater underneath the forest therefore increasing the freshwater table. As we have learned from research, a higher water table of freshwater floats on top of the more dense seawater further adding to the stability of barrier islands. This is called the Ghyben-Herzberg relation (W. Badon-Ghijben (1888, 1889) and A. Herzberg (1901).

The Baden Ghyben-Herzberg relationship states that for every foot \( h \) of groundwater above sea level there are forty feet of fresh water below sea level \( H \). Thus:

\[
H = \frac{\rho_f}{\rho_s - \rho_f} \times h = 40 \times h
\]

Adapted from McLane, C; Magelky, R; and Sieling, D. (2002)  February 2012
Evolution of the “Third Place”

Community hubs have recently been lost in post-World War II settlement practices. As suburbanization took hold, people isolated themselves in their homes more and more. The community hub thus lost its importance and quality of life suffered.

These hubs are now being referred to as Third Places. They play a vital role in our communities, not only are they entertaining focal points, they also provide a “sense of place” (Oldenburg 1991).

Serving as ports of entry on neutral ground, they are the community hubs where several functions happen on many levels. They can be anything from a restaurant/pub, market, coffee shop, barbershop, or simply a space in the landscape, which unifies the neighborhood. These temporary gathering places differ from the “First Place”, known as home, and the “Second Place”, known as work. News and events can be derived here, as well as space to work away from the office or home. The psychology of familiarity plays into the role of the Third Place as comfortable convenient locales, which residents and visitors alike can mingle or stay singular. The service of basic needs being food, water, and shelter occur and provide the extra benefit of socialization.

People mingle and conversation is fostered amongst people of different socio-economic backgrounds. They arguably contribute to the overall cohesion and success of a community. One that is either already planned or in the design phase.

How we plan the Third Place has enormous impact on an overall design. The benefits result in a stronger sense of place and foundation for further community development.
Settlement structures benefit overall from a strong sense of place, and can either support the central hub of the Third Place or simply be that Third Place. The different aspects of these places are the buildings, businesses, and landscapes that help support the Third Place and thus the community.

Designers can help this process by first addressing the mission and program of the community. This thought process allows for a deeper understanding of the needs of a community, and how bonds can be formed.

The evolution of the Third Place is two-fold. One only needs to examine existing Third Places in both the urban and rural landscapes to serve as a blueprint of designing new communities.

Utilizing Educational and Recreational Opportunities to Re-Engage Communities

Surrounding the protected space of Fort Moultrie, the batteries, and historic buildings are various green spaces now owned by the Town of Sullivan’s Island. The overall and pressing question for this community, and many others centered around former military installations, is how to re-design these spaces for more public use. Recreational opportunities are one such solution. In 1906 the Antiquities Act was established thus preserving lands for public interest. It was the first link between historic and natural areas in the history of federal preservation legislation. “Simply put: In shaping public policy to protect a broad array of cultural and natural resources, the impact of the Antiquities Act is unsurpassed” (Harmon, McManamon, and Pitcaithley, 7).
Towns such as Sullivan’s Island begin with a process initially recognizing the problem, need, and/or opportunity to create a plan for recreational management. Secondly, a discussion takes place involving an informal exchange of ideas and options. Thirdly, organizational committees are formed where as citizens begin to create a plan. These next steps include:

- Hold an informational meeting with an elected board, planning commission, environmental planner, and citizens. This meeting is where objectives are discussed along with procedures, costs, and schedule. Letters of agreement are also exchanged.
- Appoint Rural Environmental Planning Committee, in which sub-committees are formed around inventory subjects and include representatives of all groups with an interest.
- Discover Public Goals by drafting, delivering and collecting goals questionnaires
- Inventory natural, cultural, and human resources by describing; obtaining data, guidance and recommendations from a technical team; conducting field trips for direct assessment; and present and discuss inventory reports at public meetings incorporating recommendations.
- Draft Plan. Review, Publish, and Distribute: Assemble draft of findings, goals, recommendations, priorities, and implementation recommendations organized in chapters based on inventory subjects (or goals or geographic areas.) Distribute to all households (*This REP Process taken from Rural Environmental Planning for Sustainable Communities by Frederic O. Sargent, Paul Lusk, Jose A. Riviera, and Maria Varela.)

Visitor, Resource, and Service Management are addressed in this process as the three primary inputs in the system’s management model. The visitor creates the demand for the recreational experience. The needs of the group are responded to in the model as well versus the needs of just one individual visitor. The visitor dictates the need for the following two elements, resource and service management.
Resource is the medium in which the recreational opportunity occurs. In other words, the physical environment that will result from the recreation model process should be a pleasant experience for the visitors; and not necessarily the physical environment itself, but rather the experience that the visitors perceive. Service management is what bridges the needs of the Visitor with the opportunities the resource affords. “It is the essence of the opportunity” (The Outdoor Recreational Model, p.12-13). These specific interrelationships are helpful in determining what the opportunities are for any given recreational option. For Sullivan’s Island, the priorities should be synthesized within the community through town hall meetings and questionnaires. Also, visitors should be surveyed about the activities they would support and help fund. Hopefully, through additional revenue these opportunities can be realized and built by priority.

Five theoretical perspectives regarding public policy making include institutional economics, international relations, organizational studies, development studies, and political science. All five of these perspectives can each or all play a vital part in a course of action (Kogut 2006).

Acceptable change theory is based on the idea that rather than there being a threshold of visitor numbers, management should be based on constant monitoring of the site, as well as the objectives established for it (Kogut 2006). It is possible that within the limit of acceptable change framework a visitor limit may be an option, but such limits are only one tool available.
The theory is occasionally summarized into a nine-step process:

1. Identify area concerns and issues
2. Define and describe opportunity classes (based on the concept of ROS)
3. Select indicators of resource and social conditions
4. Inventory existing resource and social conditions
5. Specify standards for resource and social indicators for each opportunity class
6. Identify alternative opportunity class allocations
7. Identify management actions for each alternative
8. Evaluate and select preferred alternatives
9. Implement actions and monitor conditions
Research Methodology

Qualitative methods involving interviews, and quantitative methods consisting of random questionnaires were both used in conjunction with historical/interpretive analysis. Interviews with island residents and the focus group of the Sullivan’s Island Park Foundation were helpful in determining existing conditions as well as future possibilities. The Park Foundation operates as a non-profit benefitting these park spaces now owned by the Town of Sullivan’s Island which were formerly associated with Fort Moultrie. The interviews were helpful to give more focus and direction concerning the Battery Butler site in particular. Additional interviews of both residents and visitors captured various sentiments of how people view the batteries and the fort differently. Since the fort is not within the design project, little was asked of the actual fort but instead of the batteries that have now been abandoned and are owned by the town. Families interviewed throughout the island were more concerned with the safety of the structures as they exist and ways the sites can be updated for current use. Retired and older individuals were more interested in the batteries being preserved in their present day state. The glaring difference here between the two groups concerns safety.

One such interview, with Kaye Smith and Councilwoman Mary Jo Watson, on January 28th, 2012 highlighted the joint efforts of the Park Foundation and the Town of Sullivan’s Island in the redesign of the mound covering Battery Butler. Sentiments expressed were to enhance the existing park space by making the mound, and in particular the views from the top, more accessible.
Recreational aspects were discussed as well regarding how the town could possibly generate more revenue from the use of the tennis courts and ball fields by people not residing on the island. The Town of Sullivan’s has basically charged the Foundation with all design of the town’s green spaces and abandoned batteries. Fort Moultrie currently maintains only one of the historic batteries, Battery Jasper, adjacent to the fort, in a state of arrested decay.

Another interview conducted with the Park Foundation Board on January 8th, 2012 was useful to introduce the board to the advantages of having a well-researched plan for considering sites for re-design. Several board members in attendance expressed a desire for more revenue generating options, additional playground equipment was deemed necessary, and lastly the redesign of the mound was stated to be a priority.
Results

The surveys, conducted in January of 2012, addressed even more of the sites once a part of Fort Moultrie as well. Over forty surveys were distributed throughout the island by leaving them in resident’s newspaper boxes, and an additional ten were distributed to families in the park. Of the surveys distributed, 23 results were received.
Recurring themes were how to keep the spaces green while maintaining and interpreting their history better. Suggestions were made regarding alternative uses and the maintenance of those spaces.

People surveyed described the batteries as positively as “living museums” and “living records.” Several people felt the batteries were fine as is; however, they need to be “maintained better” was a comment that kept re-surfacing. Negative connotations regarding the structures were also shared noting the structures as “black concrete, unsafe and dull.”

What both the interviews and surveys together convey is an overall desire to see the batteries better interpreted, while maintaining both the buildings and the green spaces surrounding them better. Residents and visitors alike share the vision for the real estate to be used in a recreational manner that respects the history of the fort. Not in the interviews, nor in the surveys, was there a sentiment of destroying any of the structures but utilizing them more in the landscape.
Design Application

The Program below was constructed from the interviews of residents and visitors.

Sullivan’s Island Program:
Through Adaptive Re-Use of the former military installation, The Sullivan’s Island Park Foundation seeks to enrich the lives of citizens and visitors to Sullivan’s Island, South Carolina by enhancing existing spaces. Educational elements combined with safe, developmental recreational areas and public spaces to host community events will be further developed to keep the ideals of preservation and conservation a priority for this barrier island.

Goals and Objectives

- Refine existing spaces for citizens & visitors alike where people easily interact with others while maintaining a sense of personal space
- Improve existing memorial areas to better educate the public
- Upgrade existing facilities to accommodate all ages and abilities day & night considering comfort & safety while respecting the historical components
- Design a hybridized public space for a wide range of community events
- Develop areas to take advantage of accessibility to public funding
- Upgrade existing play areas to better address the safety & comfort of children and adults
- Design a solution for the historic “mound”
- Create outdoor shelters & gardens where people may gather for parties
- Address conservation of maritime forest
- Establish recreational areas on former landfill site from Hurricane Hugo
- Identify & better interpret many of the “off post” buildings and sites
Site Analysis also contributed to the design guidelines by taking advantage of views, sun exposure, vegetation, slope, climate, location to the commercial district and other batteries.

**Site Base Map with Images**

Drawings to focus on are first a series of historical maps illustrating the evolution of forts along the Eastern Seaboard. These maps delve further into the broader Charleston, South Carolina area and that of Fort Moultrie. Various buildings, both “on and off-post” associated with the fort indicate connectivity throughout the island highlighting car paths and bike/pedestrian paths converging in several hubs. A figure ground of these buildings and surrounding spaces aids in this visual analysis of circulation.
The maritime hammocks are shown on several of the maps as dense forest to illustrate the proximity and relationship with the fort and its surrounding spaces.

Finally, the project site is disclosed in context to the fort and the island as a whole. The project design takes into account all of the previous research discussed into the design framework capitalizing on themes of *Preservation, Conservation, Recreation, and Adaptive Re-Use.*

This connectivity map highlights Fort Moultrie sites in red and the commercial district in yellow. Pedestrians, bikes, golf carts, and cars all share the same routes. The island itself is roughly 3 miles long and one-tenth mile wide.
Figure ground

Maritime forest highlighted in green
Mondrian squares are what inspires this conceptual image of the park surrounding the historic mound. This map illustrates existing spaces in blue that will receive little alteration as to their footprint. Grey represents areas not being considered at this time, and white shows new and existing pathways. The spaces in red are currently being considered for re-design, including the historic mound, gazebo area, and picnic shelter.
Master Plan
Opportunities for Further Development

Opportunities found within communities are areas that can provide improved public access to existing conditions. These improvements can be better signage, playgrounds, and/or greenways. Conditions that may prevent or complicate the fulfillment of identified goals may be simply a lack of vision of the possibilities. This is where the services of a landscape architect can serve a community through highlighting development opportunities as well as constraints.
Conclusion

Patrick Geddes 1915 book “Cities in Evolution” states “Local character is thus no mere accidental old-world quaintness, as its mimics think and say. It is attained only in course of adequate grasp and treatment of the whole environment, and in active sympathy with the essential and characteristic life of the place concerned.” Only through the united effort of individuals can we affect the greater environment, which is ultimately our common interest and goal.

Looking at the future growth of communities everywhere, smart growth becomes an attractive tool for community development and thus is a smart investment.

Ideals of conservation can be realized through adaptive reuse of historic sites, while keeping in mind the planning process of parks and recreational management.

After all, a community has a common goal of strong ties between not only the residents and visitors, but to the community’s history as well. Redesign of spaces, such as the abandoned batteries, can transform a community overnight.

Historic conservation will protect resources while breathe new life into an underused asset that can become a catalyst to further the legacy of communities as well as Sullivan’s Island.
Bibliography


Leatherman, Dr. Stephen. Barrier Island Handbook. (University of Maryland. College Park Laboratory for Coastal Research. 1988.)


“Off the Beaten Path. Ports, Forts, Battles, and Third System Forts.”

Last modified April 16, 2012.

http://www.offthebeatenpath.ws/PortsFortsandBattles/ThirdSystemForts/index.html

Howe, Randy. Flags of the Fifty States and Their Incredible Histories: The Complete Guide to America's Most Powerful Symbols. (The Lyons Press; First edition November 1, 2002.)


Russell, Alice P. "Trees of the Maritime Forest.” (North Carolina State University. October 2009.)


Northeast-Midwest Institute. www.nemw.org


Geddes, Patrick. Cities in Evolution. 1915


doi:10.1016/j.jhg.2009.01.020


United States. Congress. Senate. Committee on Energy, Natural Resources.


University Press, 2003. Print


Kogut, Bruce. “Joint ventures: Theoretical and empirical perspectives.” Article first published online: 29 DEC 2006. DOI: 10.1002/smj.4250090403