Preserving History in a Changing Coastal Landscape

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In nature, change is constant. That statement is especially fitting for marine environments. Sea level rise, land subsidence, and storms all have the potential to drastically alter the coastal landscape. Many coastal regions encounter situations where historic coastal settlements and buildings are threatened by the ongoing encroachments of natural forces. In some situations, environmental conditions can deteriorate to the point that total retreat or abandonment of a historic community becomes necessary. Just in the United States alone, there are 3,800 ghost towns that were abandoned in the late 19th and early 20th century.[1] These lonely settlements serve as reminders that unanticipated forces can occur, which upset long-held settlement patterns. So, it is only logical to evaluate historic properties to determine what actions may be needed to maintain the history of the nation's coast for the foreseeable future.

A Constantly Evolving Frontier

The word frontier often evokes romantic images of wagon trains and dusty, wild west towns, but the frontier is not an isolated, geographic location. It is constantly evolving in response to different environmental constraints. In a 2003 article from the Christian Science Monitor, it was noted that an accepted 19th century definition of frontier was an area with fewer than six people per square mile.[2] Going by that metric, the United States had 403 counties that met the definition of frontier in the middle of the 20th century. By the turn of the 21st century that number had fallen to 377 counties.

Though that number seems rather stable, there has been a lot of notable change in places where frontier population conditions exist. For example, at the beginning of the 21st century, the state of Arizona had gone from nine frontier counties down to two and two-thirds of the nation's frontier counties were located in the Great Plains. Even today, these numbers continue to shift. In 2019 the Northern Great Plains grew at a higher pace than the nation as a whole, driven in large part by the oil extraction boom.[3] These numbers indicate that depopulation is hardly uniform and that further study on the topic is needed to determine the underlying environmental and social factors that result in the proliferation of frontier conditions in previously stable rural counties.

When counties depopulate, the political imperative for historic preservation increases dramatically, as does the need for financial and technical assistance from higher levels of government. Continued cycles of decline and disinvestment can turn a once stable community into a kind of new frontier. This means that a regional approach is preferable when pursuing the policy goals of historic preservation.

The nation's barrier islands are frontiers of a different kind, but they are no less vulnerable to economic or environmental stressors. Changes in marine conditions or ocean hydrology can threaten a productive fishery or disrupt port activity and disasters can easily cut a coastal community off from the world, prompting drastic action. In North Carolina, Portsmouth village is a noteworthy example of how changes in the marine landscape can affect the fortunes of a coastal community. In 1860, the village of Portsmouth was home to over 500 people, 109 dwelling structures, and had over eighty-five percent of its workforce employed in sea related occupations.[4]

The town's fortunes suffered a major setback when the Hatteras Inlet to the north was opened as a new shipping passage. By the year 1880, the village's population had fallen to 227 people. In 1959, the village post office closed as there were less than 15 people remaining in the entire village. The village was fully abandoned by 1971, but local residents and

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authorities were still committed to preserving the history of the village.[5] Portsmouth village eventually fell under the supervision of Cape Lookout National Seashore. National seashore staff, in conjunction with the organization Friends of Portsmouth Island, worked diligently to preserve and maintain key structures within the village.

Currently there are 20 buildings dating back to the village's heyday and 11 of these are open to the public. Today, it is hard to fathom that Portsmouth was once the site of a thriving coastal community. In 2019, Hurricane Dorian cut new inlets south of the village, eliminating access to four-wheel vehicles and requiring a 25-minute boat ride from the town of Ocracoke. The history of Portsmouth demonstrates the need for a kind of forward-looking ethos of preservation, one that can not only address preservation challenges in the present, but also forecast and anticipate future challenges that may threaten historic properties many years from now.

Preserving a Way of Life

The policy goals of historic preservation cannot simply be described as preserving old places. Historic preservation also entails preserving a way of life that has been lost to time. In coastal environments, this is perhaps best symbolized by the lighthouse. At the turn of the 20th century, there were 850 lighthouses in the United States and all of the lighthouses had to be manned by lighthouse keepers who could keep the structures in good, working order.[6]

Today, lighthouses have become archaic with the Global Positioning System (GPS) and around 48,000 federal buoys and beacons to aid in navigation.[7] The decline in lighthouses as a navigation aid means that existing structures serve not only as markers to past history, but also as symbols pointing towards a vanishing way of life. In recognition of the cultural significance of lighthouses to maritime history, the federal government passed the National Light House Preservation Act in 2000.[8] The act recognized the historic and educational value of lighthouses and set forth a process by which these properties could be transferred at no cost to federal agencies, state and local governments and other entities that could properly maintain and take care of these properties.

The strong, collective attachment people have to lighthouses as symbols of coastal history can be evidenced right here in coastal Mississippi. In Biloxi, Mississippi, the city's lighthouse is used as the city logo and is a key component of local merchandise and promotional materials.[9] Just a few miles away, in Pascagoula, the Round Island Lighthouse is another historic structure that has become strongly symbolic of the city's coastal location. Originally located on Round Island in the Mississippi Sound, the lighthouse was constructed in 1859.[10] After receiving extensive damage from Hurricane Georges in 1998 and Katrina in 2005, Pascagoula leaders decided to relocate the lighthouse to the Pascagoula River Bridge on US 90. Due to the damage received from past hurricanes, relocation of the lighthouse had to be done in phases, with a third of the structure moved in 2010. Later, another third of the structure was successfully salvaged, the city was able to move it and commence with interior and exterior renovations at the new site.[11] With funding from the Federal Emergency Management Agency, Mississippi Department of Archives and History, Mississippi Tidelands Funds, and private donations, local leaders were able to fully restore the lighthouse in 2015.

Policies to Promote Historic Preservation

Within the United States, one of the primary resources for historic preservation are the Secretary of the Interior's Standards for the Treatment of Historic Places.[12] There are four sections within the standards and each section identifies a specific action that can be undertaken to preserve historic structures. These actions are: preservation, rehabilitation, restoration, and reconstruction. If a local government is to determine what is the best course of action to take with a historic structure, it must first develop and maintain a comprehensive inventory of all historic properties under its purview.

Using GIS, it is easy to develop a comprehensive database of historic properties. The organization 1000 Friends of Florida has compiled a number of recommendations for what information an inventory should contain. Key pieces of information include: geographic location, type of resource, any distinguishing features of the property, the owner of the property and the date of its construction. Two other key items of information to track are whether a historic property is recognized on the national register of historic places and whether it is subject to the regulations of a local historic district. Being on the national register makes a property eligible for various incentives and grants and provides protection from demolition.[13]

Sometimes a property may be part of a larger historic neighborhood and designated by the local government as a historic district. A property in a local historic district is also eligible for national incentives, but, in addition to this, it is subject to a higher level of regulatory overview by the city.[14] Any changes to properties within a local historic district are governed by comprehensive design guidelines and alterations can only be permitted after a local design review board has reviewed the changes and found them to be in keeping with the district's character.

For coastal communities, another key factor to consider is what type of environmental changes may pose an imminent threat to historic structures. Over time, coastal erosion and storm surge can render a site inaccessible and undermine a property's structural integrity. In light of this, coastal communities should take advantage of long-term projections and analysis to target and prioritize funding for at-risk historic structures. To aid in this endeavor, the organization PLACE:SLR has developed an application guide that coastal communities can use to utilize the latest in sea level rise science. The full application guide entitled, *Application Guide for the 2022 Sea Level Rise Technical Report*, can be downloaded at the PLACE:SLR website.[15] One approach mentioned in the document that may be useful for historic properties is adaptation pathways.

The adaptation pathways approach identifies "tipping points", specific changes in the coastal environment, that necessitate a new mitigation strategy. These tipping points can be something measured, such as a rise in sea level, or simply an observable change in the surrounding natural environment, such as the loss of a barrier island or a major breach in a primary dune. By identifying various tipping points, local communities can plan out their mitigation actions accordingly. For example, a city could employ beach restoration to preserve a historic property for the foreseeable future, but if the property was subject to three feet of sea level rise over the next 30 years then a new, more intensive adaptation strategy would come into play, such as relocating the property further inland. The value of such an approach is that it explicitly identifies a wide variety of natural imbalances that can happen, which may threaten a historic property or group of properties.

Conclusion

For as long as civilization has existed, there has been a collective desire to leave behind a physical record of the lives people had and the achievements they accomplished. Historic preservation addresses that primal need; however, cities and towns exist in constant tension with the forces of environmental change. Environmental challenges can be particularly vexing in coastal communities, which often exist in very dynamic environments beset by tidal flooding, land subsidence and large, destructive coastal storms. In order to preserve the past, coastal communities must develop a comprehensive preservation strategy. Historic property inventories, establishing historic districts, and monitoring environmental changes affecting historic properties are all ways communities can address preservation needs and maintain a physical connection to past generations.

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Endnotes

1. Angella d'Avignon, *They Live Alone in Ghost Towns*, New York Times, Jun. 15, 2020.
2. Laurent Belsie, *The dwindling heartland: America's new frontier*, Christian Science Monitor, Feb. 11, 2003.
3. Hannah Rosenblum, *North Dakota Oil Boom Drives Population Growth in Historically Declining Region*, United States Census Bureau, Apr. 19, 2021.
4. Lenard E. Brown, *National Register of Historic Places Inventory--Nomination Form: Portsmouth Village*, Jun. 1977.
5. Peter Vankevich & Hannah Bunn West, *Portsmouth Village welcomes descendants for homecoming*, Coastal Review, May 12, 2022.
6. Wayne Wheeler, *History of the Administration of the Lighthouses in America*, United States Lighthouse Society, 2022.
7. National Ocean Service, *Do We Still Need Lighthouses?*, NOAA, May 13, 2022.
8. National Park Service, *National Light House Preservation Act of 2000*, Aug. 2015.
9. City of Biloxi, *Biloxi Visitors Center*, Dec. 8, 2022.
10. Warren Kulo, *Grand opening of restored Round Island Lighthouse set for Friday in Pascagoula*, gulflive.com, Nov. 11, 2015.
11. Carter Dalton Lyon, *Lighthouses*, Center for Study of Southern Culture, Jul. 11, 2017.
12. Department of Economic Opportunity, *Adaptation Planning for Historic Properties*, May 2015.
13. Mississippi Department of Archives & History, *National Register of Historic Places*, 2023.
14. Julia Rocchi, *10 Steps to Establish a Local Historic District*, National Trust for Historic Preservation, Feb. 9, 2016.
15. Renee Collini et al., *Application Guide for the 2022 Sea Level Rise Technical Report*, National Oceanic and Atmospheric Administration Office for Coastal Management, Mississippi–Alabama Sea Grant Consortium & Florida Sea Grant, 2022.